MOTION PICTURE

EXHIBITOR

ANNUAL

THEATRE CATALOG

EDITION

EQUIPMENT ENCYCLOPEDIA and BUYERS GUIDE

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APRIL 1, 1959

IN THREE SECTIONS
THIS IS SECTION THREE

ANNUAL

THEATRE CATALOG

EDITION

The Annual ***EQUIPMENT ENCYCLOPEDIA and BUYERS' GUIDE*** *. . . as prepared each year by the skilled Editors of the* ***PHYSICAL THEATRE—EXTRA PROFITS*** *Department.*

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THE WORLD'S LEADING AUTHORITY ON... DESIGN, CONSTRUCTION, MAINTENANCE, MANAGEMENT AND EQUIPMENT OF THE PHYSICAL THEATRE BUILDING

1959

EDITORIAL FOREWORD

As the 1959 THEATRE CATALOG Edition goes to press, the outlook for motion picture theatres and the industry in general throughout the world is a brighter one than we have been able to anticipate for several years. There are a number of very good reasons for this.

To begin with, activity in the field of design, construction, and interior work has been imaginative and vigorous in recent months, both in the United States and overseas. New trends are evidence of some responsible and hard thinking on the part of architects, manufacturers, theatremen, and everyone else allied in a common effort to make the theatre the world's most obvious place to look for entertainment. There is an abundance of new ideas about what the theatre of the future can and should be, about where it can and should be, and about the role it should play in the day-to-day life of the moviegoing public.

In the field of projection and sound, the outlook is just as encouraging. After a period of readjustment following the rapid developments of the early years of this decade, it seems certain that we are ready to move ahead again and that theatremen everywhere seek means to improve film presentation. Renewed interest in stereophonic sound has manifested itself and, equally important, there is a move underway to 70mm film. It seems very probable, if not certain, that 70mm is destined to become the standard of the industry in the years that lie ahead, and manufacturers and suppliers already are offering excellent equipment to launch this era. In the equipment end of the industry, this can be considered the most important and significant recent development.

While the foregoing remarks apply primarily to the conventional theatre, let us not overlook the drive-in, no longer the remarkable baby of exhibition, but a lusty adult. Outdoor theatre construction, expansion, and improvements continue on every front and, as it has been observed before, the future for this kind of film presentation is just about unlimited. Because drive-in movie-going is, essentially, a different experience from that in the roofed theatre, the two can no longer be considered truly competitive. Drive-ins are, therefore, entitled to grow independently of, and differently from, their brothers. At the same time, the more radical the difference between the two, the more peaceful will be their coexistence. While it cannot be denied that a competitive situation exists still between the two kinds of theatres in many localities, the more they grow different from each other, the less that competition will be, and the more each will flourish.

It is appropriate to note also that the theatre's most important adjunct—the refreshment stand— is enjoying the best health of its life. Legion products, equipment, and supplies for this facility permit the theatreman to build a structure of extra profits precisely according to his needs and inclinations and thereby to insure ever better economic health for his theatre.

In surveying today's scene and in attempting to catch a glimpse of what may lie just over the horizon, we must also recognize the role of motion picture production in bringing about current and projected states of affairs. While the theatre itself is the only suitable outlet for the industry's product, it must rely on the creative and practical abilities of producers, directors, engineers, actors, craftsmen, and many others to supply it with much needed product.

In the pages that follow, we hope that you, the reader, will recognize our theme: quality theatres, and quality equipment, and quality presentation mean a great tomorrow.

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Annual

THEATRE CATALOG EDITION

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Theatre Construction Today and Tomorrow

The Central Problem in the Design and Construction of Theatres Is to Achieve Film Projection which is Dramatically Different

The Heart Of The Problem

By Ben Schlanger
Architect

■ In the contemporary design and construction of motion picture theatres, it has become increasingly evident that the exhibitor, designers, suppliers, and various other collaborators frequently lose sight of the fact that the primary consideration influencing the final shape of the theatre is, very simply, picture projection. When confronted by some new, elaborate, and very expensive roofed houses, it is often difficult for this observer to believe that much serious thought has been given to providing for the projection of the very best film image possible.

It is essential that we look ahead to an ultimate resolution in the conflict between theatrical motion pictures and their current antagonist, home television. The theatre, perhaps even more than production, plays the key role in this struggle, and there is no reason why the outcome should be anything but very favorable to the motion picture. However, it is the responsibility of the theatreman, the film producer, and the architect of both today and tomorrow to direct their combined efforts toward offering the theatregoer entertainment which is *extremely* and *dramatically different* in picture projection from what can be received at home on the TV set. So far, this has been approached only in a very limited way in such media as Cinerama, Cinemiracle, and 70mm Todd-AO.

There seems to be little doubt that achieving that goal of dramatic difference from television lies in the direction of wide film. In this decade, much has been done with wide film, and much of it has fallen short of anticipated potential because, in the course of enlarging the projected image, problems of screen light and picture resolution have been created. These problems indicate limitations that have not been recognized.

Smaller Theatres The Answer

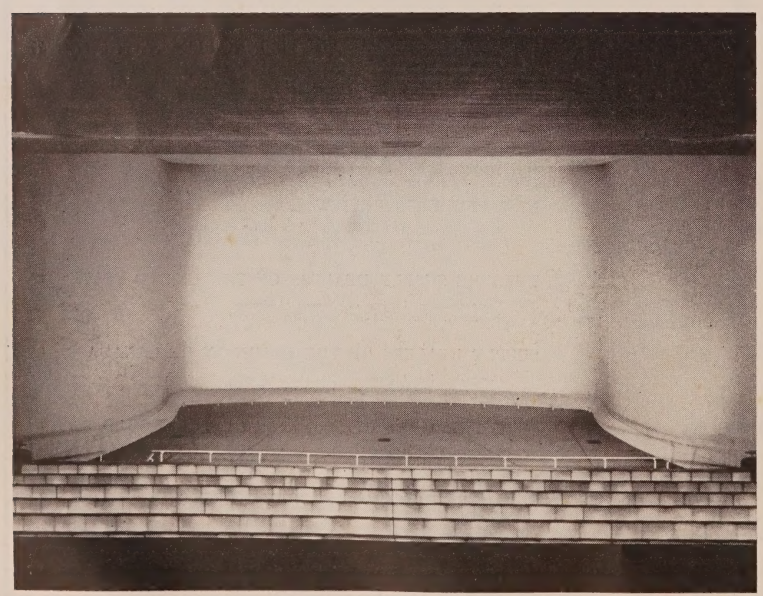
The sleeper, or "ace-in-the-hole" of the entire industry is, I believe, the theatre of some 400 to 900 seats in which a picture large, yet not gigantic, can be projected from wide film with great intergrity on a screen ranging from 35 feet to 55 feet wide. Such a theatre would, in general terms, be a superior neighborhood house, or shopping center unit, which must settle for something less than the very specialized Cinerama or similar media. In a medium-size house of less than 1,000 seats, superb picture presentation can be achieved, and with it that dramatic element not present in TV, if the theatre is designed and constructed properly. For film itself, it requires the sensible, practical, yet dramatic, from the producer.

For the time being, theatres in this category probably must continue to use 35mm product; however, there has been sufficient movement to 70mm to indicate that this will be the standard the industry espouses in its competitive battle. In the theatre of the right design and size, projection of a 40 foot picture from 70mm film results in just about the ideal screen image—superb resolution and quality, compared to whatever else the exhibitor currently is getting from 35mm. Of course, 70mm Todd-AO has been reduced successfully to 35mm, but in the process has lost the dramatic element inherent in the 70mm version.

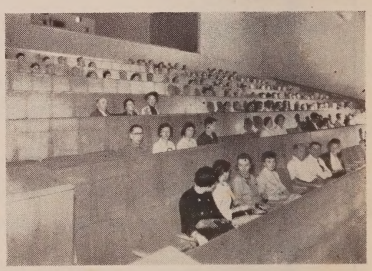
Picture Dominance

Theatres today and tomorrow, new or remodeled, should be designed in such a way that the picture width almost fills the patrons' range of vision, from the most remote viewing location, to bring about the all important effect of *picture dominance*. Black maskings and dark picture surrounds create a feeling of restriction at the picture edges. Devices are available to affect a trial off light effect at the edges. We have achieved something close to ideal in the well-known Williamsburg Theatre—a non-commercial enterprise—for this purpose, and to a somewhat lesser degree in the new Teatro Olympia at Bogota, Colombia, which is illustrated on these pages as an example of what can be done in a commercial situation. These and other ideas are now available for the aver-

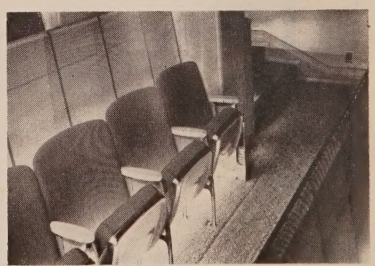
Continued on Page 27



THE SCREENS of the Willamsburg Twin Theatres illustrate Architect Schlanger's approach to the ideal theatre. The image blends off into the screen curvatures, achieving picture dominance.



SEATING in the Williamsburg Theatre is specially designed for optimum viewing, as discussed by the author. Below, lighting is confined to the floor to minimize distractions in theatre.



OLYMPIA •

Bogota, Colombia

Situated on a public park across from Bogota's new Hotel Tequendama and the Bull Ring, in a section between the city's residential area and the principal commercial district, El Teatro Olympia is an important example of the current thinking of its consulting architect, Ben Schlanger, and of other leading theatre architects around the world.

The two story glass and grille-work facade of the Olympia shields and lights the ground floor and the mezzanine, which are linked by a dramatic staircase which is visible from the street. A candy stand is a feature of this area.

THE EXTERIOR of the Olympia is glass and concrete. The theatre faces a park on which are situated a deluxe hotel and Bull Ring.

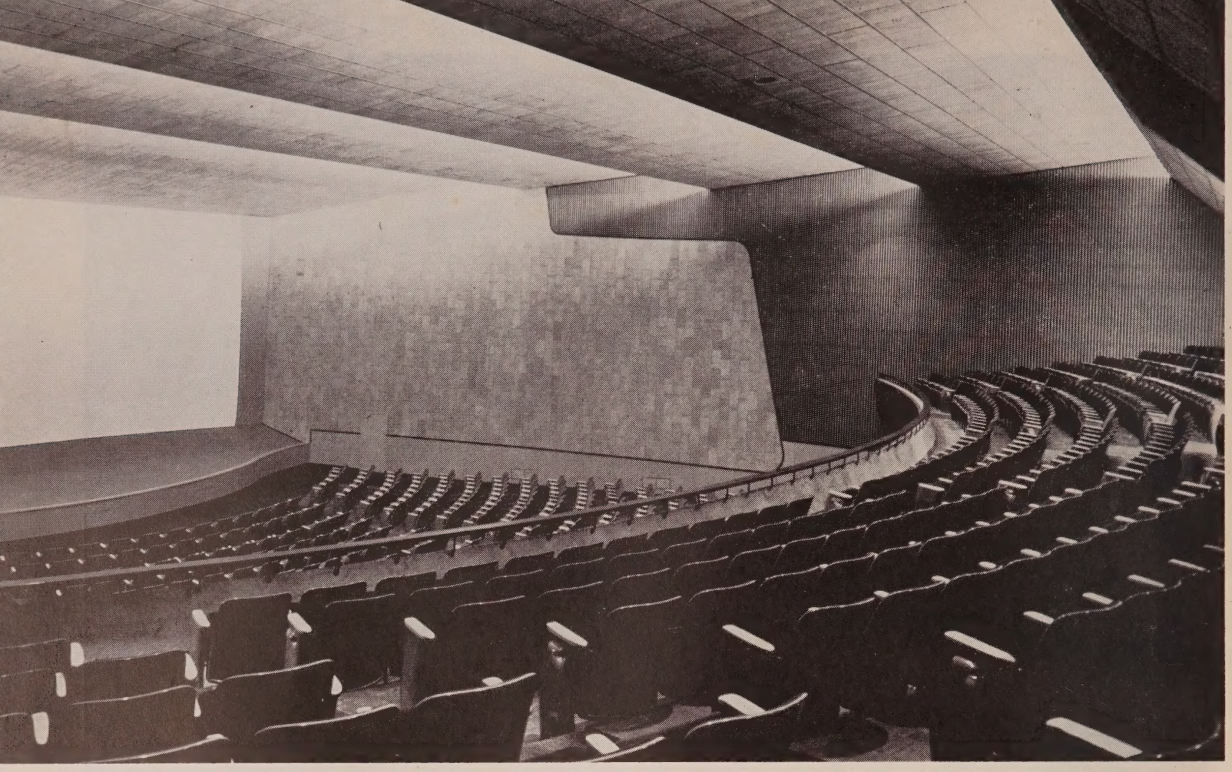
The auditorium of the Olympia illustrates some of the points Mr. Schlanger emphasizes in connection with motion picture theatre design. Although the seating capacity of this house somewhat exceeds what this architect considers the ideal, his ideas largely have been carried out with respect to the elimination of screen masking and distracting wall treatment within the subtended angle of view. Walls

THE LOBBY and mezzanine of the Olympia, right, are linked by a staircase visible from without. Note crescent shaped candy stand.

REFERENCE DATA

OWNER: Dr. Guillermo Herrera Carrizosa.
OPERATOR: B. Reyes.
ARCHITECTS: W. Miller Wilcox and Howard Battin.
CONSULTING ARCHITECT: Ben Schlanger.
STRUCTURAL ENGINEERS: Cuellar, Serrano, Gomez & Cie.
ACOUSTICAL CONSULTANTS: Bolt, Beranek, & Newman.
SEATING CAPACITY: 1,400.

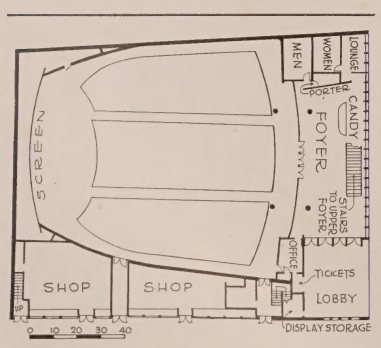
Seating: Heywood-Wakefield "Encore."
Walls: Transite and mahogany.



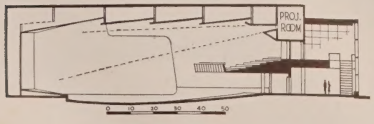
adjoining the screen are neutral Transite, blending farther back into strips of mahogany. The slightly curved screen rests on an inclined paltform which is only slightly elevated. The projected motion picture tends to blend off the screen into a reflection of its own light; this creates "picture dominance" in the auditorium and offers the patron entertainment which is dramatically different from television at home, or any other medium, for that matter, which currently is popular.

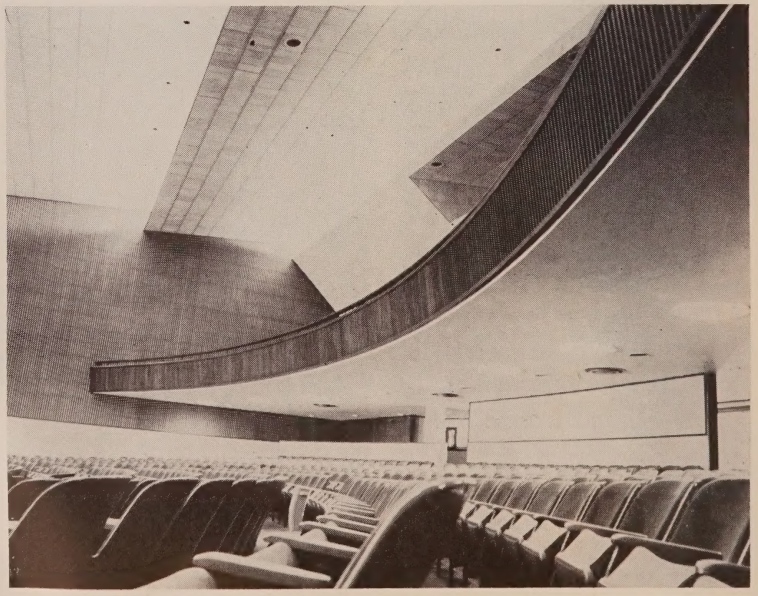
THE OLYMPIA auditorium illustrates many of the points Mr. Schlanger stresses in connection with the design of motion picture theatres.

Mr. Schlanger's rule for auditorium width (as stated in the article beginning on Page 4) has been observed in the Olympia with only slight variations. The pitch of the main floor, however, is relatively slight, rising somewhat at the screen end. Note in the section drawing on this page the downward projection which permits casting the film image almost to the floor of the auditorium. The inclusion of an upper level of seating in this instance caused the lower level to have somewhat less than the ideal arrangement proposed by Mr. Schlanger. Altogether, the Olympia represents an exceptional achievement in theatre design.



MAIN FLOOR PLAN (*above*) and SECTION DRAWING





THE DIAGRAM of the main floor and the section view, below, of the Olympia further explain Mr. Schlanger's views. Right, another view of the auditorium, second level above.

GLEN COVE •

Glen Cove, L.I., N.Y.

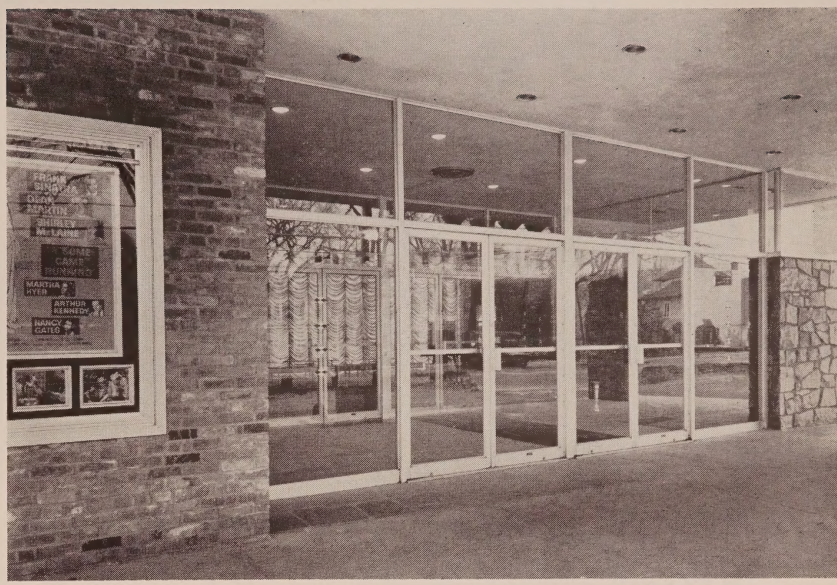
The luxuriously furnished and quality-equipped Glen Cove, in suburban Long Island not far from New York City, was opened only two months ago. It is an important example of theatre design and construction today in the best greater metropolitan areas across the country.

The interior of the Glen Cove features gold fibreglass wall coverings in a corrugated design, a gray acoustical plaster ceiling, and a gold Austral stage curtain with turquoise fibreglass side curtains. A special weave carpet is black and gold on a turquoise background.

The lobby areas feature Japanese backlighted murals, a flagstone floor in some parts, and carpet in others. A special feature of the theatre is a music and announcement system with interior and exterior speakers.

The theatre building itself stands back about 10 feet from the curb to permit driving to the entrance and thence to the large parking area. A free standing attraction board has been installed near the curb.

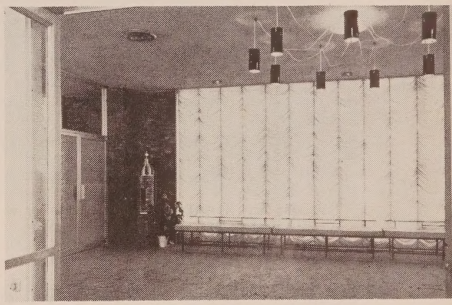
The building also contains offices, upstairs, and one large store.

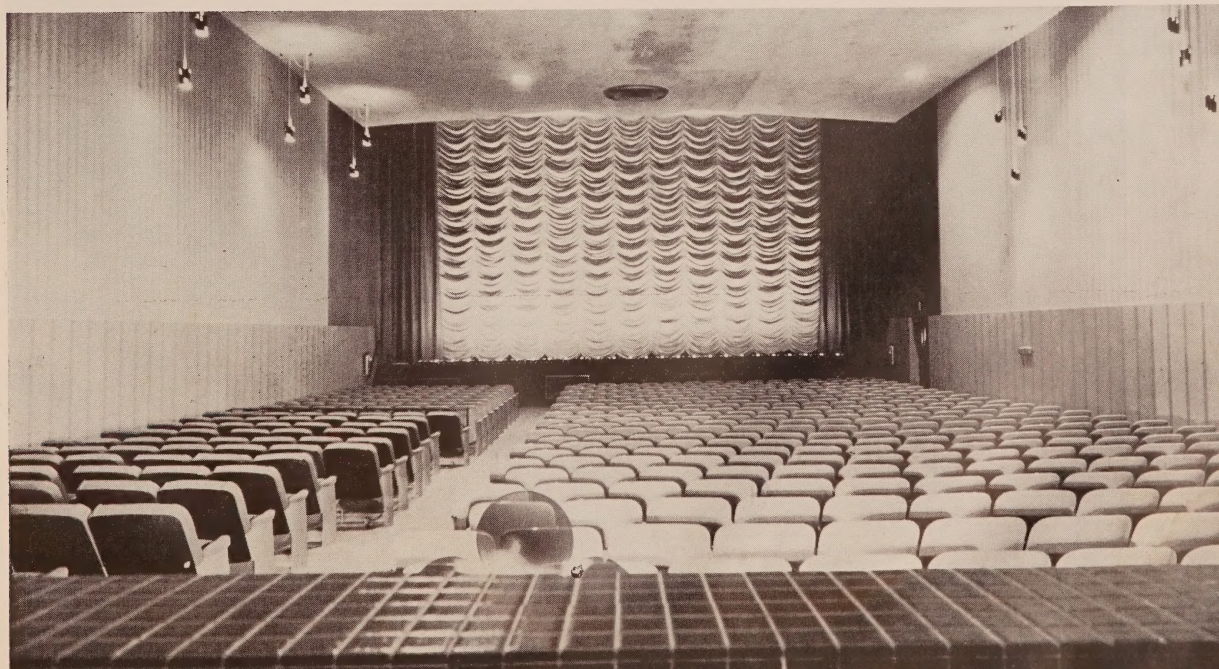


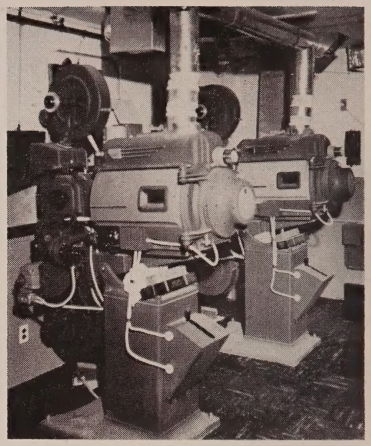
REFERENCE DATA

OWNER: Lilac Construction Corporation.
OPERATORS: S. Sinetar and S. Frank.
ARCHITECT: Leon Miller.
COST OF BUILDING: $150,000.
COST OF EQUIPMENT: $65,000.
SEATING CAPACITY: 590.
SIZE OF LOT: 200 x 185 feet.

Air Conditioning: Typhoon.
Carpets: Hardwick Magee.
Chairs: American Bodiform.
Changeovers: Strong Zipper.
Curtain Controls, Tracks: Automatic Devices.
Decorator: Joe Hornstein, Inc., Studios.
Film Cabinets: Neumade Firetite.
Lenses: Bausch & Lomb.
Projection Lamps: Peerless Magnarc.
Projection Machines: Century H.
Rectifiers: Ashcraft S100.
Rewinders: Neumade (hand) and Goldberg (automatic).
Screen: Raytone XR171.
Sign Letters: Adler "Snaploc 17".
Sound: Century Stereophonic, Altec Speakers.
Supply Dealer: Joe Hornstein, Inc.
Ticket Issuing Machine: General Register Automaticket.







THE ENTRANCE to the Mayfair, left, is flanked by revenue-producing commercial enterprises, including a quality restaurant. Equipment in the projection booth, above, includes Peerless Magnarcs and Ashcraft S100 lamps; the sound is Motiograph stereophonic, used in conjunction with Altec speakers.

MAYFAIR •

Commack, L.I., N.Y.

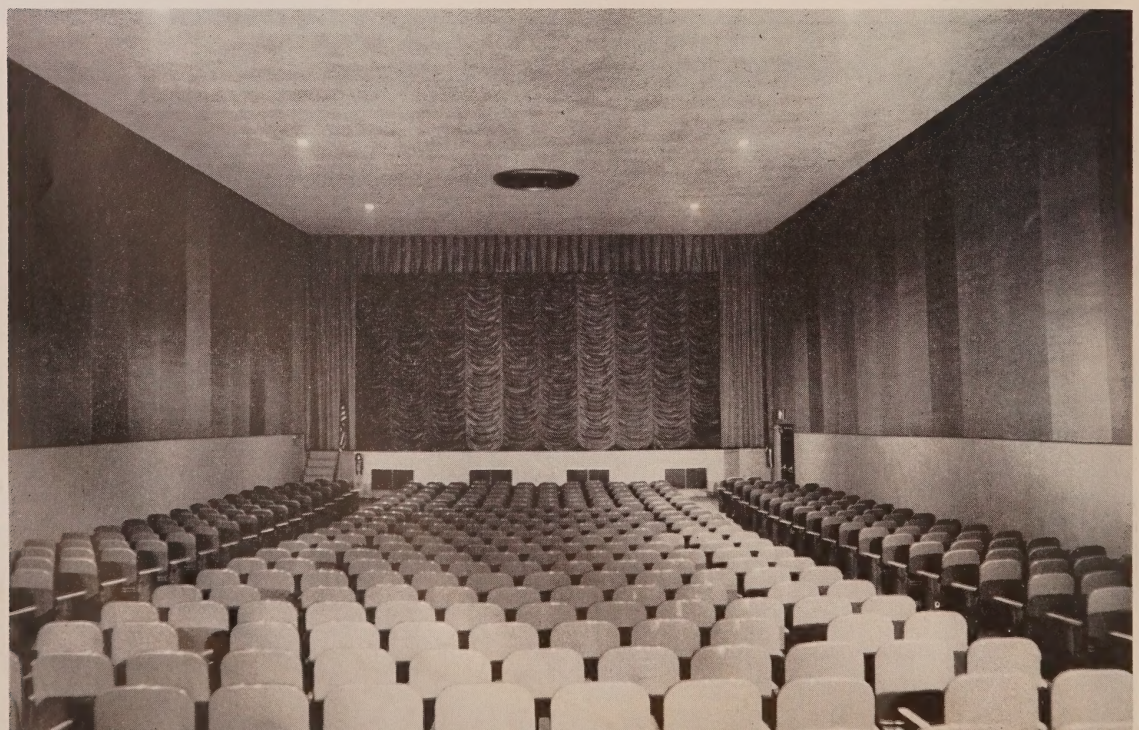
The new Mayfair, another Long Island neighborhood house in the greater New York City area, is one of several similar units in the Associated Independent Theatres circuit. This enterprising organization under the direction of veteran exhibitor Sam Baker has proven the profit potential of the "grass roots" operation in just such modern, efficient theatres as this one.

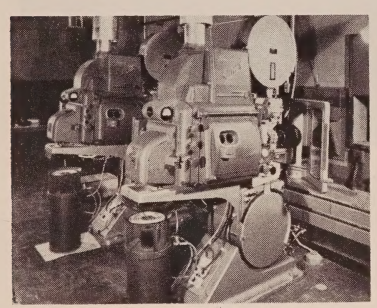
The Mayfair, like Baker's other theatres, is equipped with correct wide-screen seating.

REFERENCE DATA

OWNER: Associated Independent Theatres, Inc.
OPERATOR: Sam Baker.
ARCHITECT: A. H. Salkowitz.
COST OF BUILDING: $135,000.
COST OF EQUIPMENT: $66,000.
SEATING CAPACITY: 542.
SIZE OF LOT: 50 by 110 feet.

Carpets: Gulistan.
Chairs: Griggs Push-Back.
Changeovers: Strong Zipper Nylon.
Coinchanger: Johnson.
Curtain Controls, Tracks: Automatic Devices.
Decorator: Joe Hornstein, Inc.
Lenses: Bausch & Lomb, F:1.8.
Projection Lamps: Peerless Magnarc.
Projection Machines: Motiograph AAA.
Rectifiers: Ashcraft S100.
Rewinders: Neumade (hand) and Goldberg.
Screen: Raytone XR170.
Sign Letters: Adler Plastic.
Sound: Motiograph Stereophonic.





PHILLIPS All-Purpose projectors and powerful Ashcraft lamps provide maximum screen light for brilliant presentation of all products.

REFERENCE DATA

OWNER & OPERATOR: Loew's Theatres.
ARCHITECT: Melvin Grossman.
SEATING CAPACITY: 1,107.

Air Conditioning: Westinghouse.
Carpets: Archibald Holmes Company.
Chairs: American Bodiform Lounger.
Decorator: Maxwell Company.
Lenses: Bausch & Lomb.
Projection Lamps: Ashcraft Super-Cinex.
Projection Machines: Phillips All-Purpose.
Screen: Hurley.
Sound: Altec Stereophonic.
Supply Dealer: National Theatre Supply Company.
Ticket Machines: General Register.
Ticket Registers: Brandt Automatic.

THE FOYER LOUNGE floor covering is a thick pile carpet. Contemporary furniture is used here to compliment the elegant modern decoration.

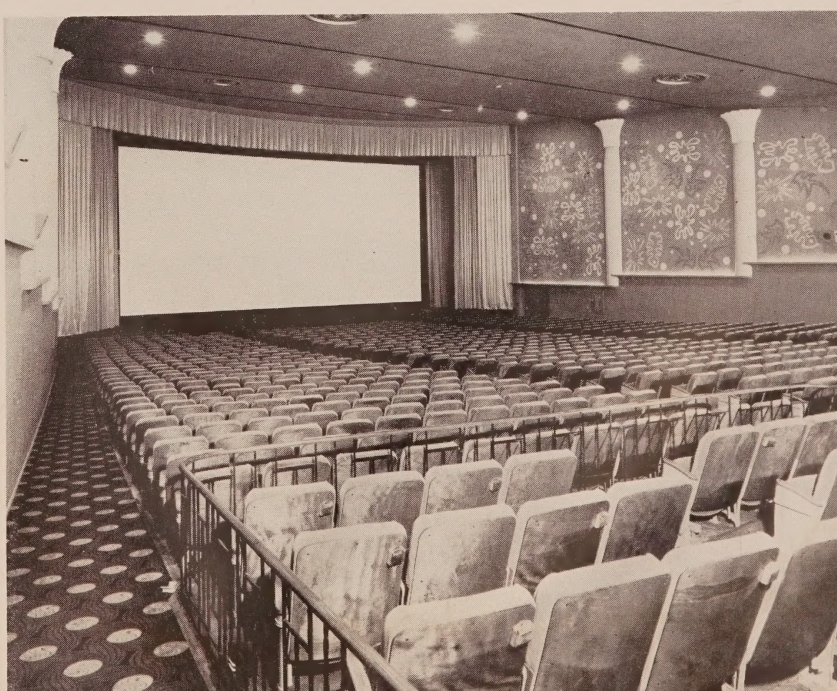
LOEW'S 170th STREET • Miami Beach

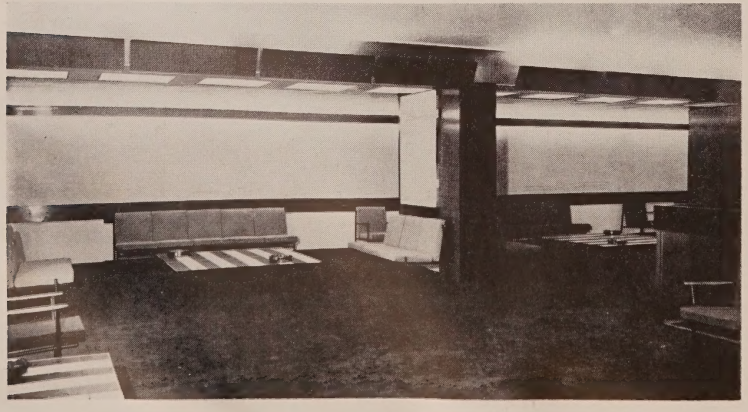
The 102nd unit in the nationwide circuit, Loew's 170th Street, opened late last year, is typical of the deluxe shopping center theatres which continue to set the pace for conventional house construction in many localities.

Two large parking areas, one in front of the theatre, the other in the rear, accommodate a total of 600 automobiles. The rear parking area connects with the front of the theatre through an arcade.

Featuring the latest in comfort-providing furnishings and quality equipment, the 170th Street's 60-foot Hurley screen can be adjusted automatically from flat to curved surface to present Todd-AO, CinemaScope, Cinemiracle, and other wide screen processes. The surface of the screen is lenticulated to prevent distortion and to provide a more brilliant picture.

Through National Theatre Supply Company, Phillips All-Purpose projectors have been installed on which a switch from 35mm to 70mm, or vice-versa, can be made in a matter of minutes. Six-track stereophonic sound utilizes surround horns for special effects, when stereo product is played. Only four tracks are used regularly.





COLUMBIA •

London, England

Columbia's new theatre in London is built on the site of an earlier house, the Avenue Pavilion, which was destroyed during the war. In every way contemporary, the Columbia is equipped with the most modern projection equipment, including Todd-AO, and the newest look in decorations and furnishing.

With a potential seating capacity of 800 reduced to approximately 750 for greater comfort, the stadium type auditorium with large screen gives optimum conditions for "audience identification."

The architects, Sir John Burnet, Tait & Partners, working in close collaboration with the L.C.C., have planned for fullest public safety and comfort. Should there be any queueing it will be in comfort, in the spacious ground and mezzanine foyers.

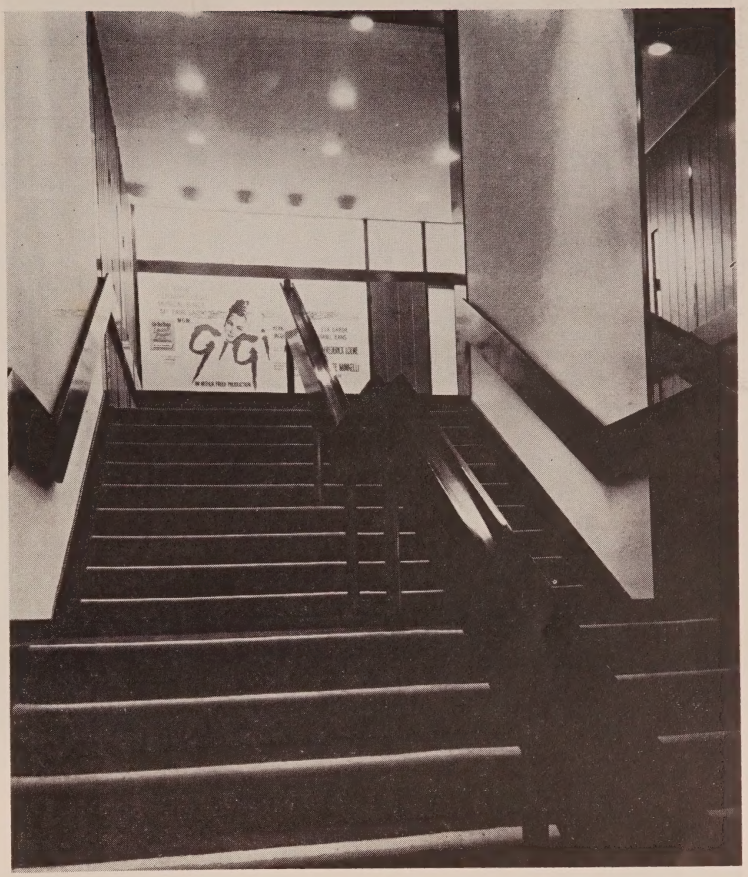
The Columbia, situated at the corner of Shaftesbury Avenue and Frith Street, is entered from the latter by plate glass doors and from the former by two 17 foot glass and stainless steel sliding doors which disappear into the thickness of the wall, leaving an unobstructed opening to the entrance and main booking hall. Outside the doors are columns faced in black granite; beyond these are an illuminated canopy with plyglass laylights and an illuminated black stove-enamelled aluminium and plastic fascia.

THE COLUMBIA THEATRE street level lobby, above left, and the mezzanine lobby, left, are highly contemporary in design and in decoration. The attraction board in the street level lobby is joined by a photographic mural 12 feet wide by nine feet high (not shown). In the spacious lobby, note the excellent lighting, offsetting the luxury of the appointments.

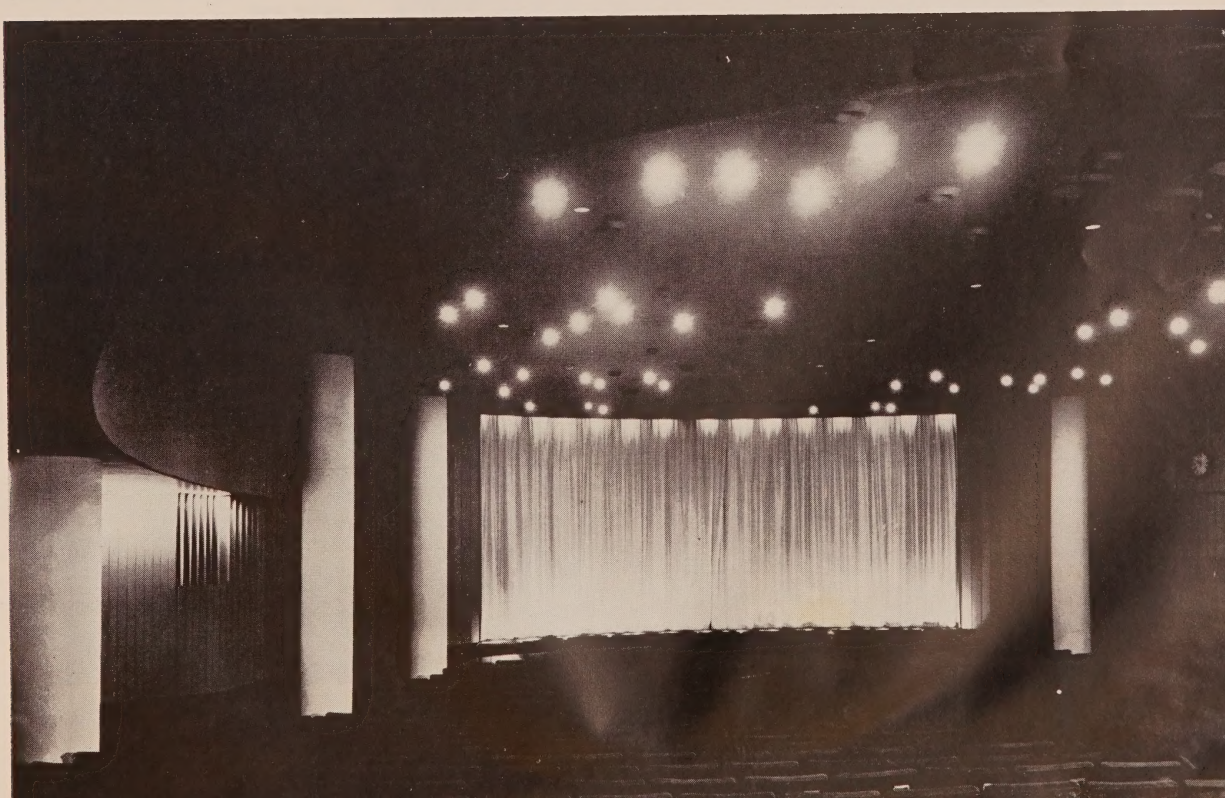
The rear wall of the entrance hall facing Shaftesbury Avenue contains a photographic mural 12 feet wide by nine feet high, and illuminated panels containing lettering, transparencies, and coloured plyglass set in a frame of natural and ebonized hardwood, black anodized aluminium, and bronze. On the right is a wall of illuminated acid-etched plate glass containing two ticket offices and additional display panels terminated at its left by a wall of red plastic and gold and black anodized aluminium with a door leading to the car park at first floor level. At this point, stairs descend to the mezzanine foyer, approximately 40 feet square. A glass and bronze balustrade surrounds a large stair well descending to the basement foyer.

The auditorium is egg-shaped and broken with two curved vertical planes. The upper, containing the projection room openings, merges tangentially into the lower at a point close to the proscenium opening which, curved for Todd-AO, forms part of the main curve. The ceiling is pierced with random circular openings, for extract ventilation and lighting. The floor is sloping for optimum vision, with a special enclosure of club seats at the rear.

Auditorium seating is upholstered in foam rubber and covered in tan moquette. The entire theatre is floored with a luxurious carpet, patterned light and dark grey to the auditorium, and elsewhere plain charcoal grey.



A WIDE, dramatic staircase links two levels of the Columbia, right. Below, the auditorium carries out the elegant contemporary theme. At its rear is a special enclosure for loge seats. The floor is pitched for optimum viewing conditions and the proscenium is curved for presentation of Todd-AO. The ceiling is pierced with random circular openings for ventilation and lighting which also add to the free-form feeling achieved in this unusual situation.



ACAPULCO •

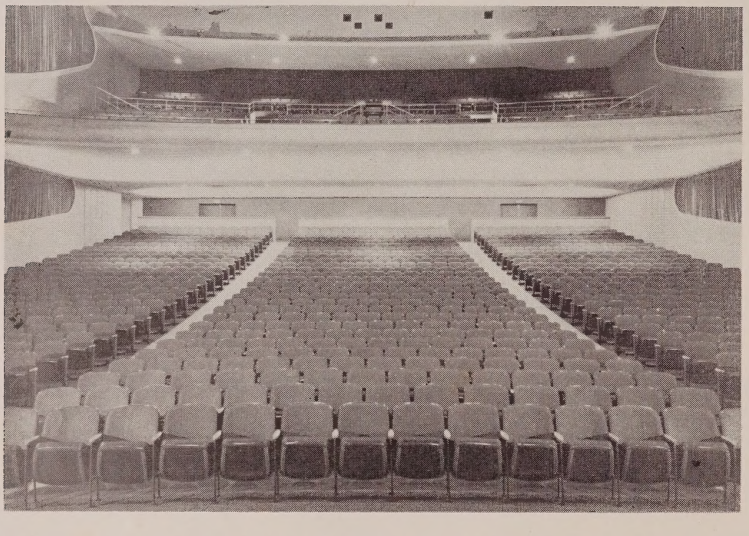
Havana, Cuba

The deluxe suburban or neighborhood house trend is not confined to the United States alone. National Theatre Supply Company has equipped the new Teatro Acapulco in Havana, and the result is a house which is equal to the best of its kind in this country.

Situated in one of the most modern districts of the Cuban capital, there is a spacious parking lot adjoining the theatre proper, solving a problem which is not peculiar to the U.S.

Lush tropical vegetation is used in front of the Acapulco for landscaping and decorative purposes. Large areas of glass are used also to give the facade modern, clean lines.

The Acapulco was constructed for the important Circuito Carrera by Cia. Moderna De Construccion, S. A., under the supervision of its president, Jaime Menasce.

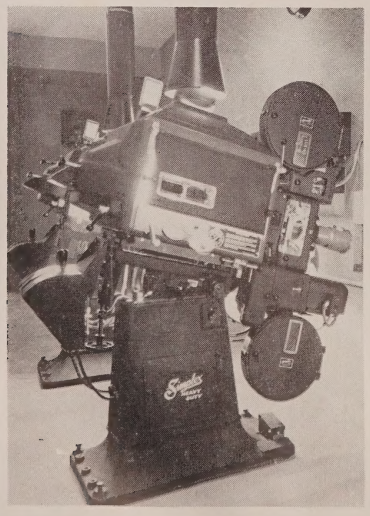


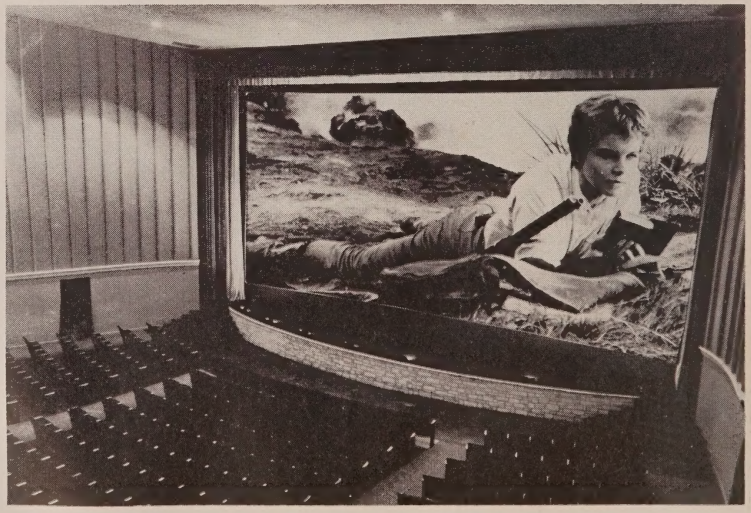
THE AUDITORIUM of the Acapulco, left, contains a total of 1,437 seats. American Seating Company's Bodiform Chairs have been used in the orchestra, Deluxe Spring-Back Chairs in the balcony. Minimum side wall decoration has the result of enhancing the effect of the projected image (see illustration, bottom).

REFERENCE DATA

OWNER: Circuito Carrera.
OPERATOR: Edelberto de Carrera.
ARCHITECT: Ricardo Edelman.
COST OF BUILDING & EQUIPMENT: $700,000.
SEATING CAPACITY: 1,437.

Chairs: American Bodiform and Deluxe spring back.
Lenses: Super Snaplite.
Projection Lamps: Excelite 135.
Projection Machines: Simplex XL.
Sound: Simplex XL stereophonic.
Screen: Walker Hi-Gain.
Supply Dealer: National Theatre Supply.





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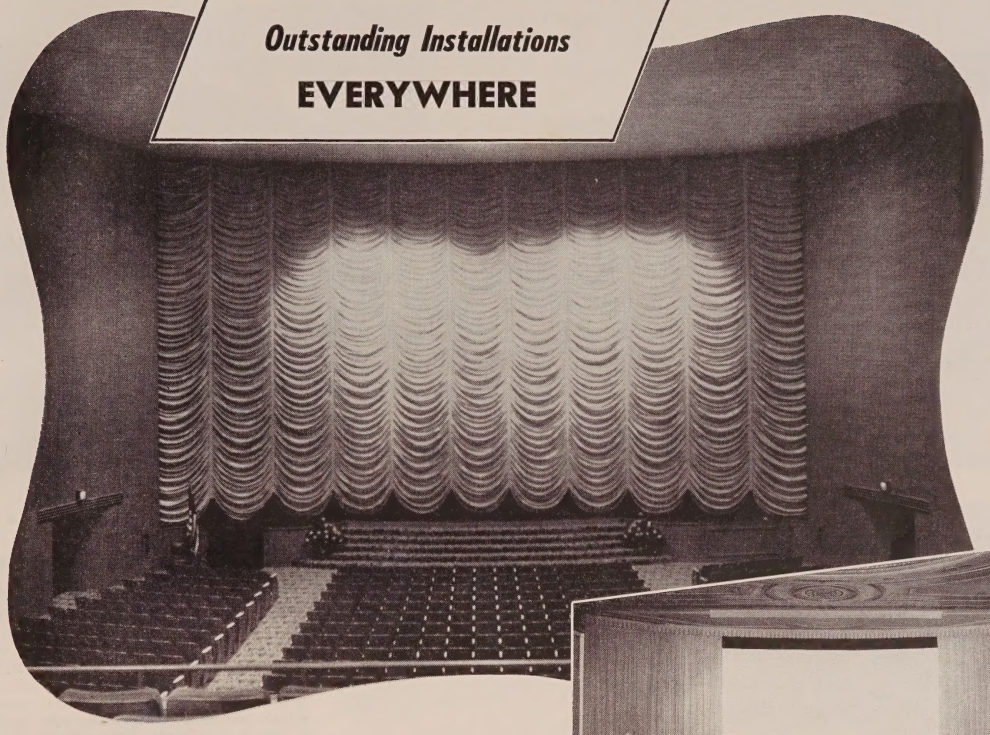

Syosset Theatre, Syosset, L. I.
Architect: E. C. A. Bullock
Contour curtain gold fiberglas, wall covering rose beige fiberglas.

Hicksville Theatre, Hicksville, L. I.
Architect: Maurice O. Sornik
Front curtain treatment silver brocade, walls grey lessanne fabric.

distinctive
Theatre Decoration

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SKOURAS THEATRES ..... New York, N. Y.
CENTURY THEATRE ..... Buffalo, N. Y.
STRAND & CATARACT THS., Niagara Falls, N. Y.
SHEA'S BUFFALO THEATRES .... Buffalo, N. Y.
RANDFORCE AMUSE. CO. .... New York, N. Y.
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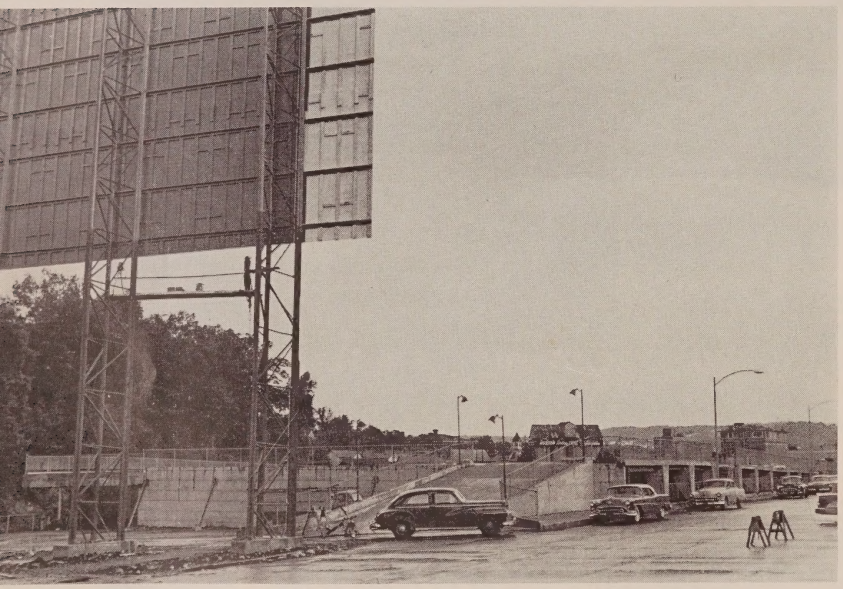

THE DOVER DRIVE-IN •

Dover, N.J.

The pioneering Walter Reade circuit recently unveiled the unique new Dover Drive-In, which has the distinction of offering two firsts in the design and construction of outdoor theatres: it is the first to be built above ground, and the first to use a wireless in-car speaker which requires no speaker post and is distributed and collected as patrons enter and leave. At the same time, it is the first drive-in to be incorporated in a shopping center, although such sites have become increasingly popular for the construction of conventional theatres.

Situated in the new Dover Shopping Center, which is unusual itself in that it is a downtown rather than suburban development, the 608-car "Theatre in the Sky" comprises the top level, accessible by ramps, of a two-story parking area. It plays a dual role by functioning as an extra parking lot during the day. The refreshment stand is open day and night, serving a quick lunch to shoppers and food and refreshments to moviegoers.

The development of the "WISP" wireless speaker offers many new possibilities in the construction of drive-ins which should be interesting to watch.

REFERENCE DATA

OWNER & OPERATOR: Walter Reade Theatres, Inc.
ARCHITECT: Kruger & Fava.
CAR CAPACITY: 608.
WALK-IN CAPACITY: 200.

Fencing: Aluminum.
In-Car Speakers: WISP Wireless.
Lenses: Bausch & Lomb.
Playground Equipment: Miracle.
Projection Lamps: Ashcraft Super Cinex.
Projection Machines: Simplex XL.
Screen Tower: Steel & Transite, 60 by 130 feet.
Signs: Wagner.
Sound: Simplex XL210.
Supply Dealer: National Theatre Supply Company.

Don't just wait for the BIG ONES

Give EVERY picture a chance to make money for you! An attraction board large enough to accommodate plenty of powerful sales copy will sell it as a big event.

That's why more theatres install attention-compelling

WAGNER ATTRACTION PANELS

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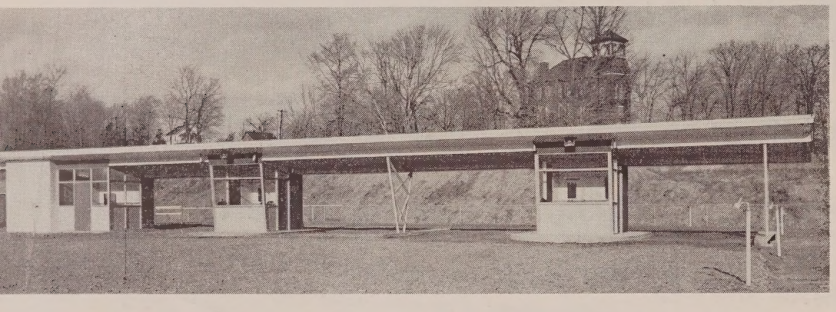
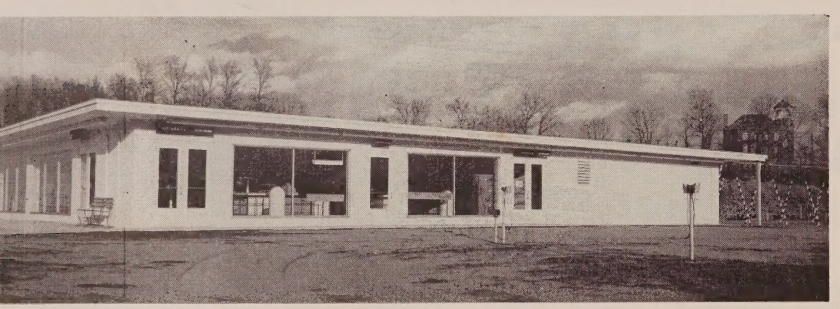




BERLIN DRIVE-IN •

Berlin, Conn.

The new Berlin Drive-In, situated on a heavily traveled route between New Haven and Hartford, is an example of today's larger outdoor theatres: the majority of drive-ins built in recent years have exceeded 1,000 cars in capacity, and have often exceeded 2,000. In general, like the Berlin unit, they offer elaborate refreshment facilities, playgrounds for children, and are equipped with the best projection and sound equipment.

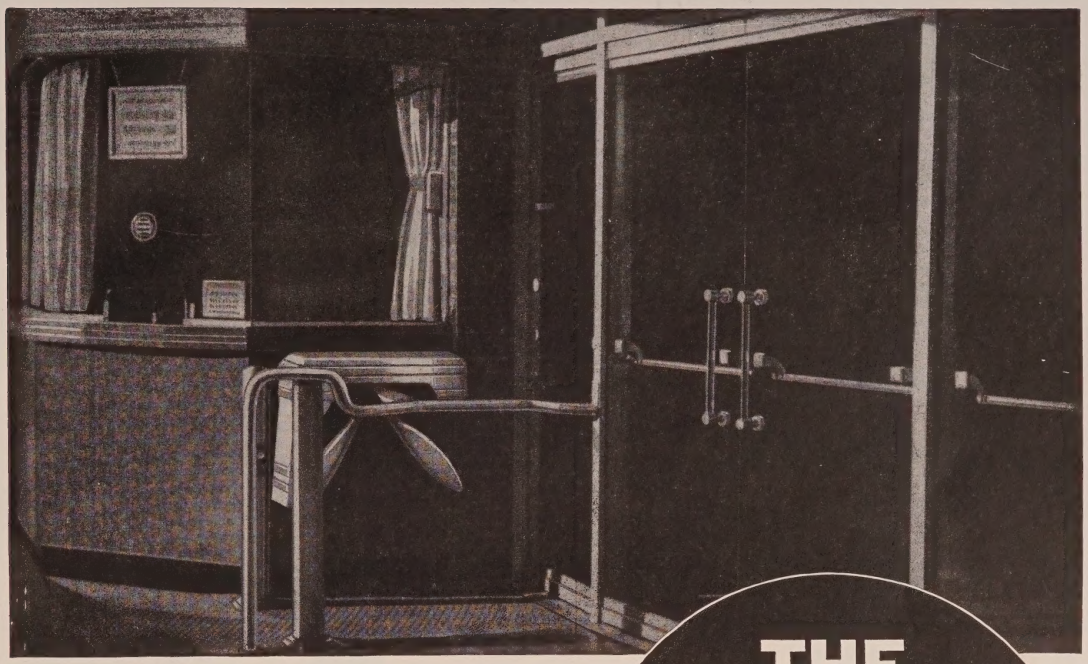
Operating on a double feature, generally first-run policy, the Berlin draws most of its patronage from neighboring residential areas and from among the factory workers of the area.

The 50 by 120 foot screen is custom built and engineered steel construction by the supply dealer for the theatre, Joe Hornstein, Inc. Ashcraft Super Cinex lamps and the Century Model H projectors on Motiograph bases provide superior film projection. Another feature of the Berlin is completely tiled washrooms.

REFERENCE DATA

OWNER: George Le Witt.
OPERATOR: Lakeside Realty Company.
ARCHITECT: Leon Einhorn.
CAR CAPACITY: 1,400.
SIZE OF LOT: 40 acres.

Changeovers: Strong Zipper.
Coinchanger: Brandt.
Film Cabinets: Neumade Firetite.
In-Car Speakers: Motiograph Plastic Hi-Impact.
Lenses: Bausch & Lomb.
Playground Equipment: Miracle.
Projection Lamps: Ashcraft Super Cinex.
Projection Machines: Century H, Motiograph bases.
Rectifiers: Ashcraft.
Rewinders: Neumade (hand) and Goldberg (automatic).
Screen Tower: Joe Hornstein, Inc., custom built.
Sign Letters: Wagner Plastic.
Sound: Motiograph-Altec.
Supply Dealer: Joe Hornstein, Inc.
Ticket Issuing Machine: General Register.



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The Cashier collects the admissions and the Perey Turnstile checks the cashier by means of a register in the turnstile. No tickets are required as the turnstile register automatically counts each patron entering the theatre.

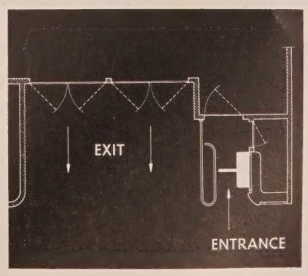
Simple Method of Operation. The box office is equipped with a Perey Theatre Type, Registering, Two-Way Turnstile under the control of the cashier. Patron pays admission charges to the cashier, then passes through the Perey Turnstile which automatically registers his admission. The patron is automatically guided from the box office to the entrance door by properly designed railings located so that the entrance passageway is always under the control of the cashier.

No tickets are required. The turnstile register checks against the cashier's receipts. No ticket taker is needed.

Where Rates Change at different hours of the same day—readings of the register are taken at the time the rate change goes into effect.

When There Is a Price Differential between adults and children—the turnstile is equipped with an extra register for child admissions. In addition, there is an overhead visual indicator which lights up when the child admission is registered, thus checking against any possible manipulation by the cashier of adult and child admission receipts.

Perey Systems Satisfy the Fire Department. Installations of the Perey Theatre Type Turnstiles are in operation in most of the large cities of the country where fire department rules are of the strictest. The Perey Application Engineers design the systems so that there are always as many Exits as required to satisfy the Fire Dept. **The Entrance is so designed** that it takes a minimum of space and is located in such a way as not to interfere with an Exit. In fact, the entrance becomes an additional exit in case of emergency. The Perey Theatre Type Turnstile is always of the two-way passage type, permitting free exit in case of necessity.



An arrangement with cashier booth at side of lobby.

PEREY TURNSTILE COMPANY

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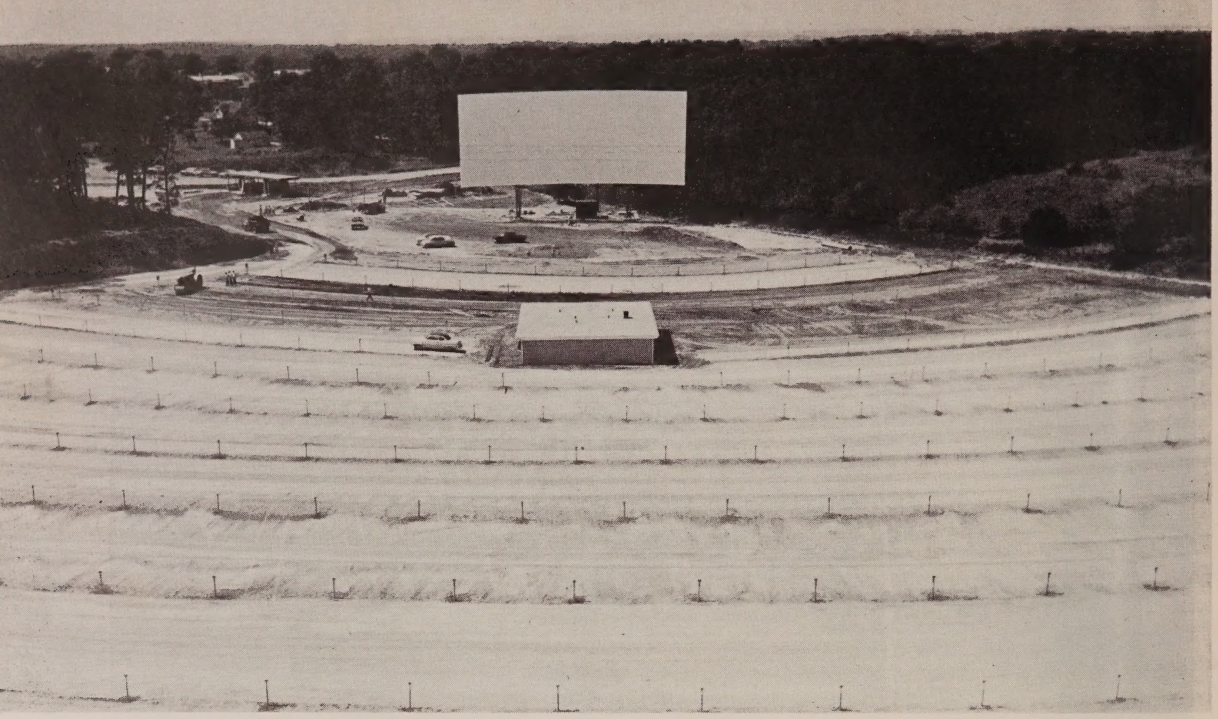
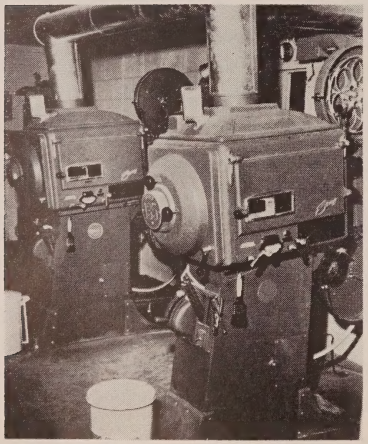




GREAT OAKS DRIVE-IN •
Cook, Indiana

Another large drive-in, this one serving an important area in the middle west, is the Great Oaks. This is said to be the initial installation of the new DeVry 35mm projectors with special stainless steel barrel shutter and built-in blower cooling system. The projectors also have new type built-in sound heads as part of the projector mechanism.

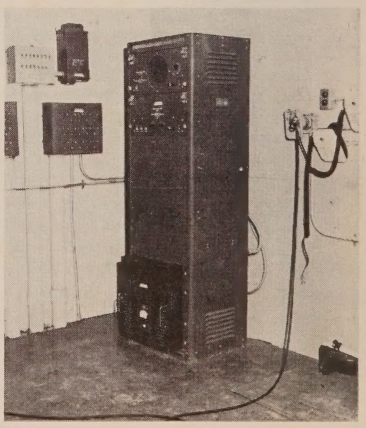
The Great Oaks is the first venture of its kind for the B. J. D. L. Company, which plans to begin construction of another outdoor theatre in Texas this fall. Features of the viewing area include an 80-foot moonlight tower with six 1,500 watt lamps installed, two amber and four white.

The entrance and exit drives of the Great Oaks are four lanes wide, served at the entrance by dual ticket booths.

REFERENCE DATA

OWNER & OPERATOR: B.J.D.L. Company.
CAR CAPACITY: 1,200.
COST OF BUILDING: $167,000.
COST OF EQUIPMENT: $49,000.

Amplifiers: DeVry & Altec 250 watt.
Generator: Hobart.
In-Car Speakers: EPRAD.
Junction Boxes: EPRAD.
Lenses: Kollmorgen Super Snaplite.
Projection Lamps: Strong Super Model 91005-CR.
Projection Machines: DeVry.
Projection Table: Goldberg.
Ramp Switches: DeVry.
Ramps: Specially-designed reverse-type.
Rewinders: Goldberg, Model K.
Screen Tower: Signs, Inc., 50 by 120 feet.
Supply Dealer: Evansville Theatre Supply.
Ticket Issuing Machine: Consolidated Ticket Company.



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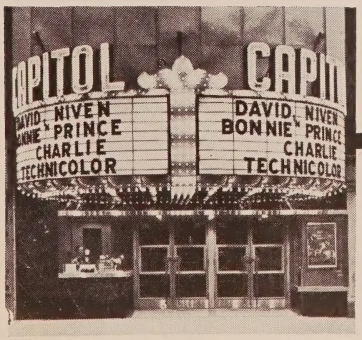

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The Remodeling of the Broadway

Famous New York Theatre on the Great White Way Is Up-Dated by Major Designer and Manufacturers

■ SOME OF THE MOST modern, and many unique, decorating features for the interior of the motion picture theatre have been incorporated in the complete remodeling and rehabilitation of the Broadway Theatre in New York, owned by the Shubert Theatre Corporation.

Designer Donald Oenslager of New York went hunting for new wall decoration and other eye-catching effects for the Broadway and the results can be described as exceptionally dramatic. This 1,800 seat house, in the heart of the city's theatrical area, has recently housed various Cinerama productions.

The remodeling and redecorating included the elimination of a number of box seats and the complete renovation of theatre chairs. Other new work includes carpeting, stage curtains and drapery, paint, auditorium fire wall, and the complete redecoration or replacement of the lounge furnishing and the rest rooms. The remodeling cost for the theatre has been estimated in excess of $200,000.

Auditorium

In the Broadway auditorium, all the chairs were rehabilitated. They are now upholstered in royal blue or gold in a heavy long-wearing nylon fabric. Alternating rows of two in gold or blue (see illustrations for approximation of the visual effect) produce an interesting staggered pattern which compliments the overall decor and injects a dramatic note.

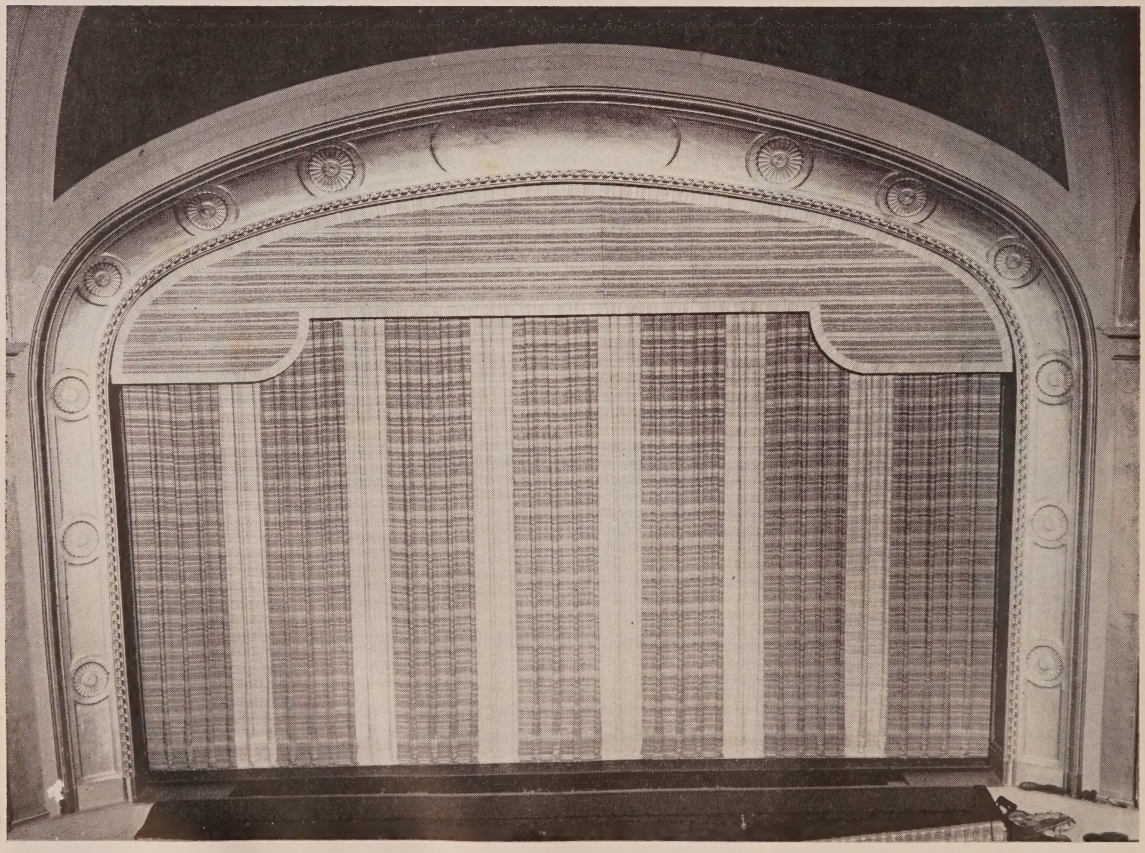
The auditorium is completely carpeted in blue background on which are superimposed gold specks. In contrast, stairways throughout the house have been carpeted in bright red.

The stage curtain has been made of a special woven cotton and rayon with Lurex gold thread in contrasting colors of blue, yellow, gold, and beige, the pattern running in a lateral design. The overall measurements of the curtain are 100 feet by 30 feet, draped in 100 per cent fullness. Drapery of the same fabric has been used on both side walls to frame 30-foot lucite windows which were installed to mask an area formerly containing the eliminated box seats. These structural additions emit a soft and diffused light into the auditorium, and they blend well with the blue-painted walls surmounted by a great golden dome.

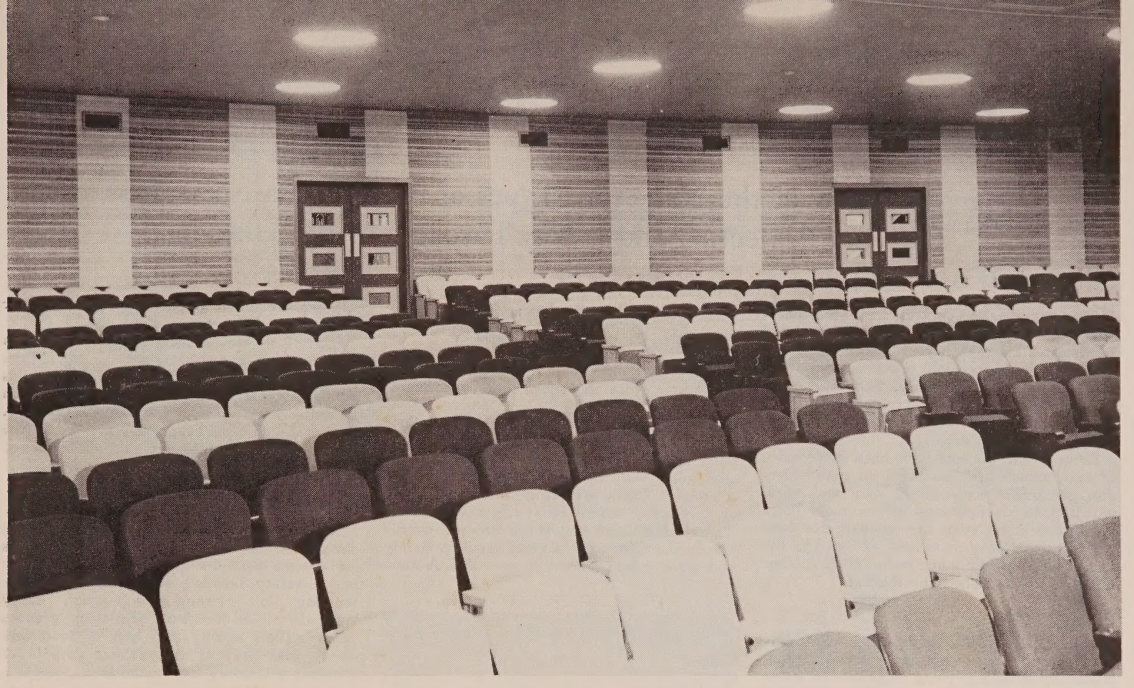
The rear of the auditorium has received the same thorough treatment. The wall has been covered in the same fabric used elsewhere, achieving an exceptionally unified effect. The production and the installation of all curtains and drapery was entrusted to Novelty Scenic Studios of New York.

Inner Lobby Mural

A striking mural has been installed on the curved inner lobby wall, which backs the rear wall of the auditorium. This creation represents the glow of advertising signs and lights in the Times Square area after dark. The abstract design is executed in odd



THE BROADWAY's new stage curtain is a specially woven fabric highlighted with Lurex gold thread.



AUDITORIUM SEATS have been upholstered in various colors, staggered in alternating rows of two.

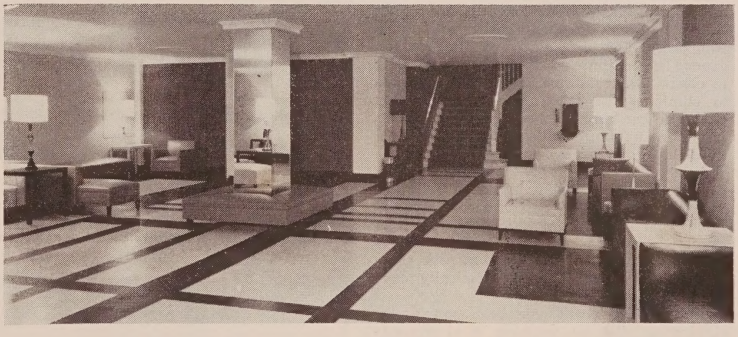
shapes of Lucite in brilliant red, blue, green, and yellow on a background of black maughahyde.

The floor covering of the inner lobby carries out the color scheme of the rest of the theatre with tile of a modern design in a black, white, and red pattern.

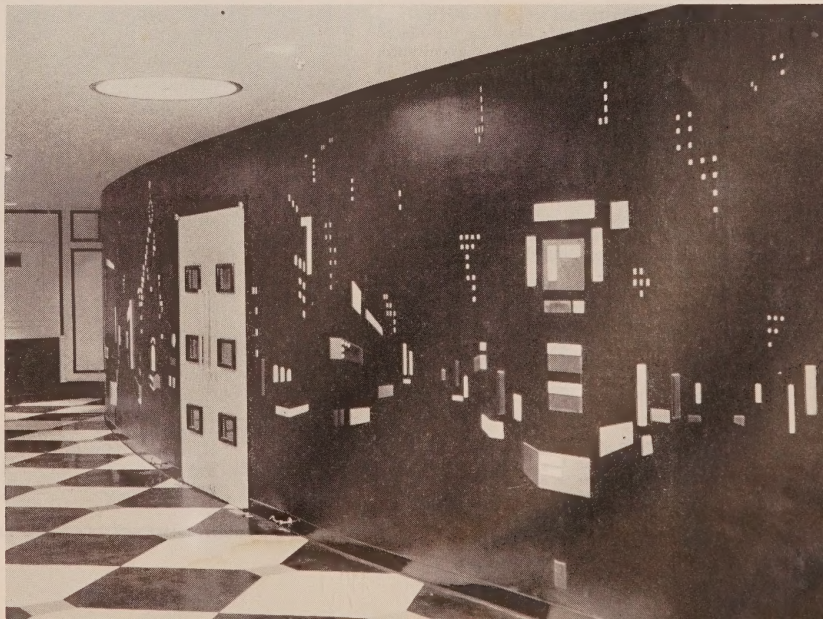
Lounge

The unusually spacious lounge downstairs repeats the floor treatment of the inner lobby with a slight variation in the pattern. This offsets walls painted in red, blue, and

Continued on Page 26



LUCITE WINDOWS flanking the proscenium arch mask areas which formerly contained box seats. Novelty Scenic Studios produced and installed curtains and draperies here and elsewhere in house.



Matting For Many Purposes

A Review of the Numerous Types of Matting Materials Offering Protection and Safety Throughout the Theatre

By D. W. Moor, Jr.
President
American Mat Corporation

■ The restaurant business, long an important user of floor matting, is being emulated by theatres more each year in their need for a floor covering which provides sanitation, safety, comfort, and beauty. This, of course, can be attributed to the increased importance of refreshments in the operation of theatres and, particularly, drive-ins.

Especially in demand have been those types of mats which are fabricated on rust-resistant, galvanized steel spring wire and those which have no openings in the mats large enough to catch even the smallest domestic or imported ladies' shoe heel. A trend to the use of vinyl plastic mats, rather than rubber, also has distinguished the market.

Plastic Mats

The rust-resistant spring-steel wire feature probably has been favored where foot traffic has tended to bring considerable water indoors, and the plastic mats are popular where surfaces, such as parking lots, have transferred oil to mats which if made of rubber would not afford the length of service anticipated. Plastic mats generally are lighter in weight, making them easier to handle. Nonporous, the dirt stays on the surface, cannot become imbedded, and hence is easier to clean. Closer fabricating of mat segments to eliminate the tripping hazard, resulting from the catching of small heels, of course, has been a feature which has equal appeal in all lines of business.

Fade resistant colors in plastic and rubber link mats permit the forming of an unlimited variety of beautiful patterns and designs. Lobby and foyer floors which are no longer attractive can be enhanced by the use of mats. Even worn areas in old carpeting can often be effectively and economically covered by matting.

Link matting always has been popular for eliminating dirt by trapping it at the entrance. Dirt and sand tracked onto carpeting is soon ground in and quickly cuts the nap of the carpet to shreds, slashing the life of the finest carpet in half. At the entrance, traffic directional lines can be employed to provide a functional and attractive pattern.

Reduces Costs

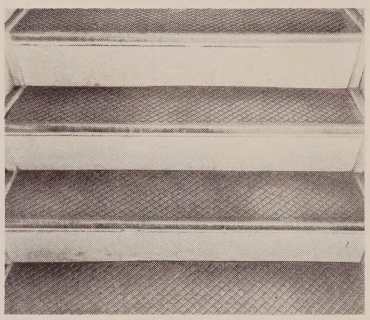
Cleaning and redecorating costs usually are greatly reduced where good entrance matting is installed. When a theatreman is faced with dirty snow, slush, ice, and water tracked all over his entrance, he begins to see how much easier his maintenance job would be with matting doing the work instead of his staff.

Heating and ventilating systems blow tracked-in dust into the air and eventually it settles on furnishings, walls, equipment, and ceilings. Up go redecorating costs.

Correctly placed, the proper type of matting will perform like a series of small squeegees, scraping the dirt, sand, mud, snow, and water from the shoes and collecting it in the mat openings.

One fall by a patron on a slippery floor can be ruinous to a theatre from a financial point of view and result in the loss of valuable good will, even if insurance coverage is carried. Cases involving suits for $100,000 or more for single falls are not unusual. Maintaining floors and stairs in good condition is the best way to avoid trouble. Safety underfoot should always be provided. A non-slip footing on a wet, sloping terrazzo floor is a must.

One of the most accident-prone areas in a theatre is the rest room. Counter-Tred matting can be most helpful here. It provides a non-slip surface, is long-wearing, and can be rolled easily up for mopping of floors. A high degree of sanitation is obtained by the low count bacteria feature of this approved product.



STAIRS are an accident-prone area of the theatre for which many different kinds of rubber matting are available for the protection of the patron.

Nylon Compound

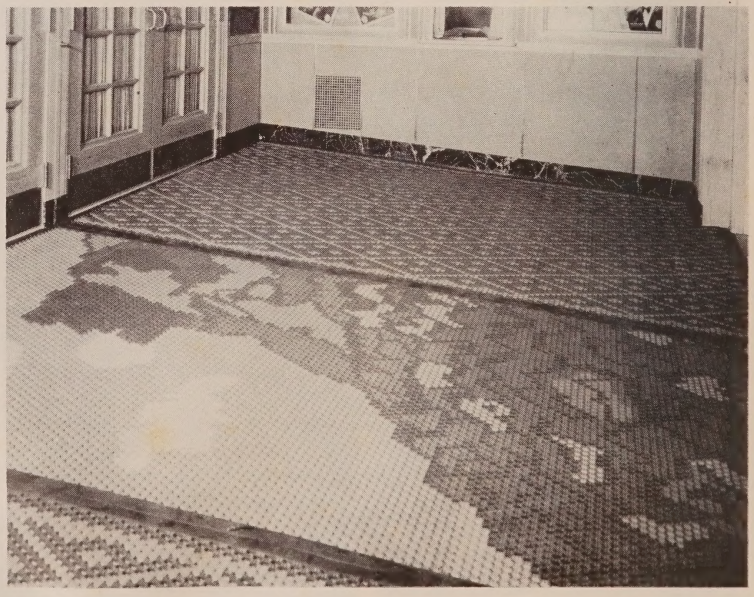
Nylon corded rubber compound matting should be used around popcorn machines and drink vendors. It hugs the floor and has a safety beveled edge which prevents tripping. It is tough, slip-proof, easily cleaned, and economical. The deep grooves catch spilled drinks and bits of food and candy and prevent it reaching carpets or creating a slippery floor condition.

Aisles, Stairs

For aisles, a long-ribbed runner matting should be used, preferably made of nyracord to withstand the concentration of wear. It hugs the floor, silences footsteps, and costs far less than carpet. Furthermore, it is vermin-proof and can be easily cleaned by a vacuum or damp mop.

Stairs which lead to balconies or down to rest rooms frequently present a hazard because of worn floor covering or dim lighting. Nyracord stair treads are slip-resistant, exceptionally long-wearing, and easily cleaned. They also have a marked effect on silencing footsteps.

Doormen get tired standing in one position



IN THE FOYER of the New Hampshire theatre at right, rubber matting has been installed in the center panel in a design depicting the wellknown "Old Man of the Mountain" landmark in the area.

NYLON-corded Counter-Tred matting is used behind this refreshment stand to insure firm footing.

for extended periods and their feet often get cold. A small, inexpensive, resilient, comfort mat and an electrically heated mat are the cures.

Types of Mats

There are so many types of matting on the market, each of which has been designed for a particular application, that it is wise to rely on the technical knowledge and experience of a matting engineer when selections are being made. Mats are produced of rubber, nylon-corded rubber, plastic, fiber, wood, steel, neoprene, and many other materials. This service usually is offered without cost or obligation, assures you of an installation that will be satisfactory functionally and artistically, and makes your maintenance dollar go farther.

A brief rundown on a few types of matting and their applications may be helpful to those who elect to do their own selecting.

Colored vinyl plastic link matting beautifies entrances and lobbies. Corrugated ridges scrape off dirt, trap it in the openings, keep it out of sight, prevent tracking throughout the theatre and onto expensive carpets, thus reducing cleaning and redecorating costs. Links are usually woven on galvanized, rust-resisting spring steel wire. This type of mat ordinarily can be fabricated in any size and shape and in a wide variety of colors.

Counter-Tred matting, made from nylon cord and bound with rubber compounds, is ideal for use in front of and behind serving counters, in lavatories, and on dirty dish areas to reduce breakage around dish washing equipment.

Flexible wood link matting is appropriately used in kitchens or other food preparation areas. It lies flat, is substantially constructed on a rust-resisting galvanized steel spring wire framework and has beveled ends to prevent slipping. Grooves allow drainage, and it folds into a compact roll for easy handling and cleaning.

Tweed nyracord floor tile is the perfect floor material for concession buildings. It affords insulation for the feet against cold or hot floor surfaces. Its long service has been proven by years of use in locker rooms and ice-skating rinks. High resiliency silences noise.

Continued on Page 27

FOR THEATRES

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Solving Acoustical Problems

A New "Sound-Shield" Product Which Can Be Applied Directly To Existing Walls and Ceilings Is Gaining Wide Acceptance

By F. M. Stumpf
Vice-President-Research
Columbia Acoustics and Fireproofing Company

■ Many theatre owners, in an effort to regain audiences lost to other forms of entertainment, have found that a complete modernization of interior finishes, heating and air conditioning facilities, amplifying systems, and seating arrangements have resulted in larger audiences through increased customer comfort. Often, this modernization or remodeling work has necessitated a complete redesign of the theatre's acoustical properties due to critical changes in the amount of sound absorptive materials present within a given area. This problem often exists in theatres that were acoustically perfect prior to interior modernization. The feeling of intimacy the audience achieves when all wanted sounds are originating from the screen is often lost, and acoustical redesign must be considered for complete satisfaction.

In many cases, theatre owners have neglected acoustical consideration due to the costs involved in the installation of sound absorbing materials. Most acoustical materials available today require a system of backing boards, metal runners, clips and other attachment systems for maintenance of true planes, acceptable appearance, and efficient acoustical absorption. Building owners interested in modernization of interiors have constantly been in search of a practical, economical acoustical finish material which could be applied directly to existing wall and ceiling surfaces.

A product manufactured by Columbia Acoustics and Fireproofing Company has proven to be the answer to this problem. Marketed under the name of CAFCO Sound-Shield, it is fast gaining widespread acceptance throughout the country as an attractive, highly sound-absorbent finish material for application direct to most existing wall and ceiling surfaces. The problems encountered by preformed acoustical materials in applications over irregularly shaped surfaces are overcome by CAFCO Sound-Shield because it is sprayed directly to existing surfaces in a continuous coat to form true, level planes. Unlike many machine-applied finish materials, this product is formulated to provide excellent abrasion resistance.

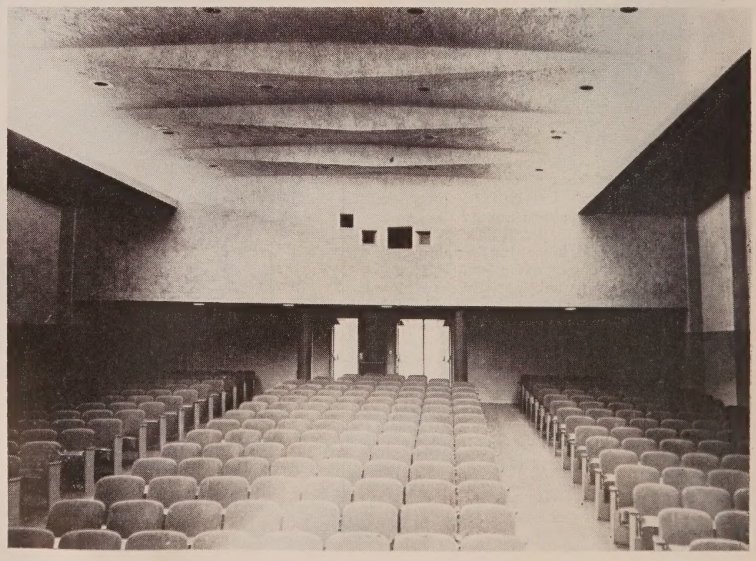
Use of the machine-applied Sound-Shield in modernization and acoustical treatment offers the owner these advantages:

1. Tests performed by Underwriters' Laboratories, Inc., have shown that CAFCO Sound-Shield is incombustible. A classification established by the building industry to measure the "flame spread" of an interior finish material is referred to in determining the performance of a material exposed to fire. The flame spread rating of this product has met the incombustible classification whether applied over combustible or incombustible surfaces. In many cases, a building owner can realize some reduction in fire insurance premiums if Sound-Shield is applied to existing wall or ceiling surfaces which did not meet the incombustible classification.
2. The thickness of CAFCO Sound-Shield may be varied or tapered to meet acoustical design requirements through elimination of potential "dead" areas and critical "live" areas. This flexibility of acoustical design is not always possible with preformed materials of a predetermined thickness.
3. If an exhibitor is eager to maintain certain irregularly shaped surfaces within the theatre, CAFCO Sound-Shield easily can be formed to maintain the aesthetic benefits of these surfaces. Since it is applied in a continuous blanket, the problems of open joints, cutting, scribing and curvature faced by preformed materials are completely eliminated.
4. Unlike acoustical plasters, this material is applied in only one coat to full thickness, and requires a minimum of drying time before the theatre again can be used. Normal structural movement within ceiling or wall areas is absorbed without cracking or spalling of the surface.
5. Application techniques employed by CAFCO Sound-Shield contractors permit the owner or designer to select a texture best suited for each area to be treated. The fissured or travertine-type surface resulting from application can fall into a smooth, fine, medium, or coarse classification of texture.
6. The natural finish provides a pleasing white surface. The fiber may be painted repeatedly without appreciably affecting absorbent characteristics.
7. Because CAFCO Sound-Shield possesses excellent thermal resistance characteristics, in many cases owners can realize reductions in heating and air conditioning costs when it is applied to interior surfaces. Comfortable room temperatures are easily and economically achieved.

CAFCO Sound-Shield is applied by factory-trained, franchised CAFCO contractors located throughout the United States, Canada, and several foreign countries. Often they are in a position to provide recommendations regarding areas to be treated, and can furnish estimates covering installation costs. Since acoustics are a prime consideration in the modernization or remodeling of theatres, a competent acoustical consultant should always be secured for thorough and proper

Continued on Page 85

ABOVE is a close-up view of the CAFCO Sound-Shield material as applied to a surface. Below, an auditorium in which the ceiling and most of the wall area have been treated with this material.



New Uses For Copper In Theatres

Copper and its Alloys are Becoming Increasingly Valuable For Efficient Commercial Heating and Cooling Systems

By Carl H. Pihl
Copper and Brass Research Association

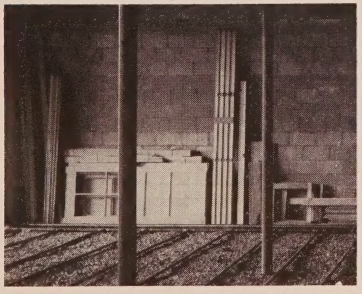
■ It has been traditional in the construction of theatres in this country to specify copper and copper-base alloys for many purposes. Sheet copper has been, and is, virtually standard for flashings, gutters, downspouts, and other sheet metal work such as skylights, louvres, decking and marquees. Bronze is widely used for doors, ticket booths, and such ornamentation and trim as stair and balcony railings, electric light fixtures, frames, grilles, and hardware. Plumbing and heating lines are generally of red brass pipe or copper tube.

In recent years, a great deal of copper and copper-base alloys have been utilized in the air conditioning of theatres, as well as structures of all kinds. In such installations, cooling coils are generally of finned copper tube while both copper and brass are employed in the condensers and evaporators of the refrigeration units required to cool comfortably the large buildings. There are many other uses of these metals in air cooling installations too numerous to list.

An outstanding example of the generous use of copper and its alloys is the luxurious Radio City Music Hall in New York City, perhaps the nation's finest motion picture theatre. Certainly, it is one spot that every visitor to New York has on his or her "must see" list, whether American or from abroad. Bronze—that age-old alloy which was used for ornamentation by the ancient Egyptians more than 5000 years ago—is found in entrance doors, elevator trim, railings, grilles, hardware, and for many other purposes throughout this magnificent theatre. More than 30,000 pounds of copper were used in the air conditioning system itself.

However, most of these applications of the red metal and its versatile family of alloys are more or less standard in good construction and can be found in almost every theatre in the country. Copper and its alloys will continue to be used for these installations because time has proved that these metals are most durable and economical in the long run. Copper, the most useful of man's metals, is also the most resistant to corrosion. Copper can best withstand the ravages of time and weather.

A new application of copper that is creating a great deal of interest in building circles would seem to offer splendid opportunities in the construction of theatres. This is radiant, or panel, heating which is being successfully employed in numerous buildings of all types throughout the country. In addition to its wide use in residences, radiant heating systems have been installed in numerous



STRAIGHT AND ANGULAR lines distinguish this installation of Type K, hard copper tube in a radiant heating system. The copper tubes are laid in lines of 60 feet each, three lengths to one line. Twenty-two lines make up the floor.

Q. How much should a theatre invest in floor mats?

A. As much as possible, for the more he invests the more he saves.

Make for a more sanitary, attractive concession building.

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churches, schools and theatres—not to mention office buildings, stores, factories, garages, aircraft hangars and greenhouses.

The principle of radiant heating is not new. Primitive men huddled around a fire were being warmed by radiant heat. Ancient Romans used a system of radiant heating, called hypocaust, consisting of pipes in the floors through which hot water apparently was circulated. Heat rays from the sun, often strong enough to warm human beings in winter, is radiant heat.

Radiant Heating

Radiant heating is achieved by installing pipe panels—usually consisting of copper tube—in the floor, ceiling or walls of a structure through which steam or hot water is circulated to provide the heat source. Radiant heating, in contrast with conventional heating systems, imparts heat by direct radiation to the occupants of a given space rather than by heating the air volume in the room. This results in a healthful atmosphere which is stimulating to an individual by providing refreshing, cool air, yet assures comfort by a radiation of heat. Most people, accustomed to overheated rooms, are amazed at the feeling of being outdoors that is experienced with a radiant heating installation.

Heat Transmission

When the conventional type of heating system is used about 70 to 85 per cent of the heat is transmitted by convection, the remainder by radiation. In radiant heating the average approximates 40 percent by convection and 60 percent by radiation. In conventional heating systems there is a "layering" of hot air from the top. Comfort is achieved by surrounding the persons in the room by a blanket of warm air. In radiant heating systems comfort is achieved by controlling the heat loss of the body by direct rays of heat. The air may be quite cool but the radiant heat rays prevent the loss of the natural heat layer or blanket surrounding the person, heat which is generated by the body. An analogy may be made to a spring day when the air is cool yet the sun's rays provide warmth, conditions which make human beings so full of "pep" at that time of the year.

Radiant heating in contrast with the conventional systems of heating relies mainly on heat transfer by radiation from the walls, the ceilings or the floor, the temperature of which is raised above that of the space it is called upon to heat by means of hot water or steam pipes, by electrically heated wires or by warm air flues.

Of particular importance in structures with high ceilings and large spaces to be heated, such as theatres, is that the effect of heat radiation extends evenly throughout the space to be heated. Most of the heat is not wasted by being convected to the higher levels where it is not needed.

Heating Panels

Copper tube is ideally suited for the heating panels of a radiant heating system and is the leading choice by architects and heating engineers from coast to coast. Copper tube is corrosion resistant and durable, and can be expected to endure for the life of the building. In the long run, copper tube will be found to be more economical than other materials which may be slightly lower in initial cost. Another important consideration is the high thermal (heat) conductivity of copper.

Sidewalk Heating

Consideration may also be given to the possibility of installing copper coils in the sidewalks around a theatre to prevent the formation of ice and snow during the winter months. Hot water circulated through the copper tube, imbedded in the cement, melts the snow as it falls and prevents the formation of ice. Many buildings have installed such systems and find them most practical. They have also been installed on steep hills on roadways and one hospital has so equipped the driveway used by ambulances.

With the growing popularity of ice shows, some theatres have installed systems enabling them to convert their stages to ice rinks in a few hours. Here again, copper tube becomes the heart of the installation as the piping system through which the refrigerant is circulated. This installation can be either temporary or permanent.

Copper and copper-base alloys are also vital for the extensive lighting system required in the motion picture theatre. This includes the lighting for both inside and outside the theatre. In addition, the projection equipment involves a considerable amount of copper and its alloys.

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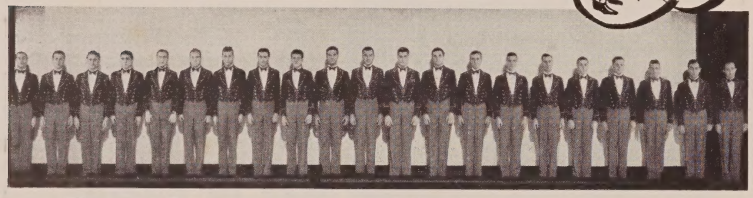

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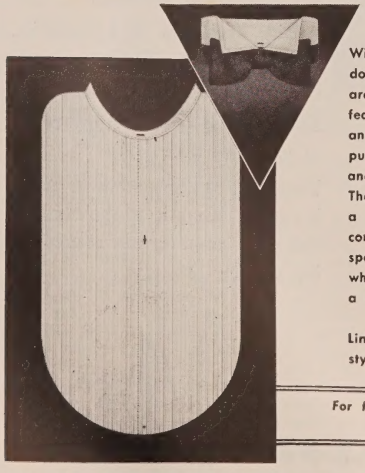

With competition for the public's entertainment dollar ever-increasing, progressive theatre men are offering increased service and other desirable features to attract customers. Progressive Chains and Independents throughout the country are putting added stress on cleanliness and appearance of their theatres and their service staffs. They have found Lintex Collars and Fronts to be a valuable help. These collars and fronts are convenient and extremely economical. Made from specially processed paper with a linen finish — when soiled, they are thrown away. There's never a laundry problem with Lintex.

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BROADWAY REMODELING

Continued from Page 21

beige. The new lounge furniture in red, blue, black, and yellow leather contributes a contemporary atmosphere which is enhanced by unusual table lamps which are used in this area exclusively.

The complete rehabilitation of the Broadway was carried out under the direct supervision of Horace Wright, representing the Shubert interests.

CONSTRUCTION

Continued from Page 4

age theatre for everyday use.

For maximum picture dominance, the width of the audience seating area in the theatre auditorium should not exceed by more than 25 per cent the width of the picture projected. Also, a good rule of thumb is to keep the picture width in feet as close as possible to the number of millimeters of the film width. In these ways, the public can be given an important dramatic difference without resorting to the deeply curved screens essential to Cinerama and other limited-exhibition media. While the latter processes have their very particular place on the scene, we cannot expect them to become the standard of an industry in which the keystone is the more modest operation, for the obvious reason that the average theatre is in no position to acquire or operate the amount of equipment required.

Design Considerations

Wall surfaces adjoining the screen must be designed for trail off or blend off of the picture as previously stated. Maskings and other devices on and around screens, and *distracting* decoration on the auditorium wall surfaces within the angle of view, are direct contradictions to the objective of picture dominance. Every psychological block must be eliminated between the viewer and the screen.

Ideally, the image should be projected down to the floor to eliminate the picture up on the wall effect. This has been accomplished, for all practical purposes, at Williamsburg by means of a unique seating system combining a strong pitch of the floor with low walls to shield the view of preceeding spectators. This makes the viewer feel close contact with the projected scene.

In analyzing the method and degree of blend off, the theatre's individual design requirements must be taken into consideration. But, perhaps the purpose of this device can be understood best by comparison with the matting on a painting or any other picture. A large picture placed on a mat (masking being the theatre's mat) of equal or greater size results in the loss of picture importance or dominance. Minimum, neutral matting has been proven most effective and the elimination of masking and sharply contrasting picture surround in theatres is proving to be the most effective and dramatic way to present a motion picture.

The large roofed theatre will lose its usefulness principally because of television competition, and it is predictable that industry expediency and the day of 70mm will prove the usefulness of a theatre containing not more than approximately 1,200 seats. The exhibitor today and tomorrow must offer something that the patron *really notices*—which is most easily achieved in the smaller theatre.

Other Trends

In acoustics, the current trend is to treat the auditorium with far more sound absorption material than heretofore. This has developed because motion pictures contain, as they almost always have, both indoor and outdoor scenes. Indoor sound effects normally are handled very adequately by the sound track of the film. For reality in the

Continued on Following Page

IN THIS SPACIOUS concession building, Tweed Nyracoard Floor tile has been used to achieve a long wearing, safe floor covering which retains with minimum maintenance its fresh, new look.

MATTING

Continued from Page 23

Sponge rubber or plastic comfort matting eliminates fatigue for doormen and cashiers. Used as a runner, it silences foot traffic.

Corrugated Perforated Matting affords especially good scrapeage at a low cost. Made of rubber compounds, it is particularly fitted for use where there are wet floor conditions. The ridged bottom affords aeration and drainage.

Rubber and cord matting hugs the floor and is ideal for carpet protection.

Grease-proof vinyl plastic link or segmented matting and oil and grease-resistant Counter-Tred Safety Matting is recommended wherever cooking oils or greases are used. It is non-absorbent, non-porous, and is unaffected by animal fats, fish oils, hot soapy water, grease, gasoline, and kerosene.

Corded rubber fabric link matting is quiet to walk on and lasts extremely long. Its virtue is in service rather than appearance; frequently it is used as a general purpose mat.

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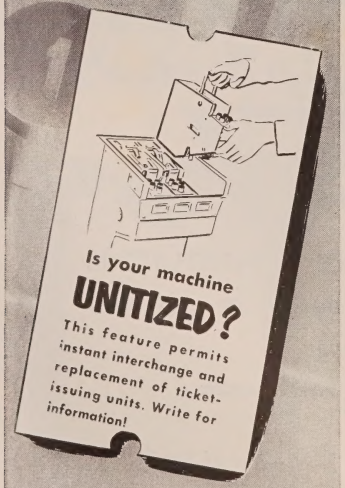

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CONSTRUCTION

Continued from Preceding Page

outdoor scenes, however, more sound absorption is essential because in the open (except in confined areas) sound absorption is 100 per cent; there is none of the sound reflection which is present indoors, in the theatre. Only by better acoustical treatment of the auditorium can the outdoor scene take on greater feeling of reality.

In seating, we can soon expect more comfort from new designs coming from manufacturers. In installation, greater width per person in seating is necessary as the viewing distance to the screen decreases, to allow a fuller view of the screen width between the heads of preceeding spectators.

With respect to projection provisions in contemporary theatre design where it is assumed that 35mm will have to be included for some time to come, the structural elements (including exits) must be kept far enough back from the picture area to allow flexibility for installation of a screen suitable for 70mm. The front or screen end of the theatre must be a flexible one, adaptable to future developments, not bound to the practices of today.

More a suggestion on my part than a trend is free locker space for patrons to check hats, coats, packages, and the like, instead of the attendant-and-tipping system (or no system at all) common to so many theatres today. In this way, the exhibitor would offer free what has been a 25 cents (or more) service. Many, if not the great majority, of theatregoers rebel at additional cost for checking service and, as a result, sit through the picture in discomfort, wearing or holding part or all of their paraphernalia. It is services like this which will enable the roofed theatre to compete ever more effectively with drive-ins.

Tomorrow's Ideal

The Williamsburg Theatre, seating 250, could be expanded in concept to 500 or more seats to be the ideal standard theatre of the future. Here, distractions of every kind have been eliminated. The auditorium is a viewing vacuum, the audience walks into a space which gives a spatial feeling. Blue light bathes the theatre and gives it the impression of floating in space. Screen titles and credits have been dispensed with in favor of posting them outside. Conventional lighting has been abandoned or—more exactly—lighting has been put where it belongs in the auditorium—on the floor. There are no downlights to distract the viewer; extraneous light is present only where it is needed: on the floor in the walking- or aisle-areas.

In conclusion then, we look forward to a future of small enough theatres with a large enough film area to project about a 45 foot picture from 70mm film. Such conditions as have been described here can make the patron feel close contact with the scene and give the dramatic impact available only through skilled technical presentation, on an admission fee basis, in properly designed theatres.

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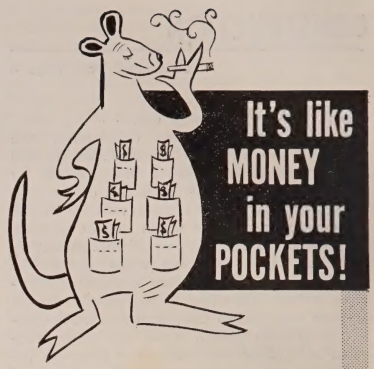

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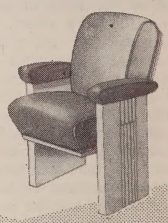

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We feature large selection of seating fabrics such as mohairs, velvets—nylon fabrics, all colors, reasonably priced. All fabrics sold by yard, precut into squares or made into covers. Send for current price list and samples—mail cover for matching.

Compare our values and be convinced.

MANKO FABRICS CO., INC.
SEATING DIVISION
630 Ninth Ave., N.Y. 36, N.Y. Film Center Bldg.

Combination Drive-In And Motel

Australian Activity in the Outdoor Theatre Field Is an Exciting Harbinger of Tomorrow's Practices

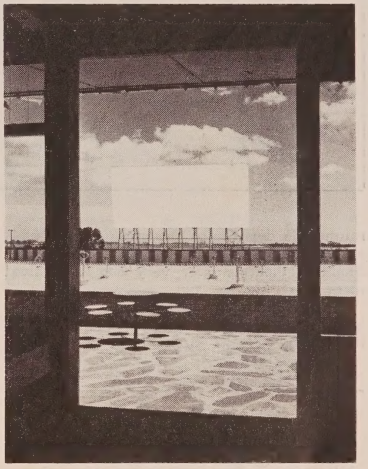
■ AN OUTSTANDING DEVELOPMENT last year on the Australian drive-in scene—long an active and fast growing frontier for the outdoor theatre—is the combination drive-in theatre and hotel-motel. Certain to have its effect on thinking about drive-ins in this country and elsewhere, the Shandon Drive-In and Hotel-Motel at Seaton, near Adelaide in the state of South Australia, attracted wordwide interest when it was opened recently. It was said at the time that it was the first of its kind anywhere.

Most of the transient guest rooms at the Shandon-Seaton offer a clear, uninterrupted view to the drive-in's screen through large, plate glass windows. Sound effects are provided from the regular film track by special speakers located in the rooms.

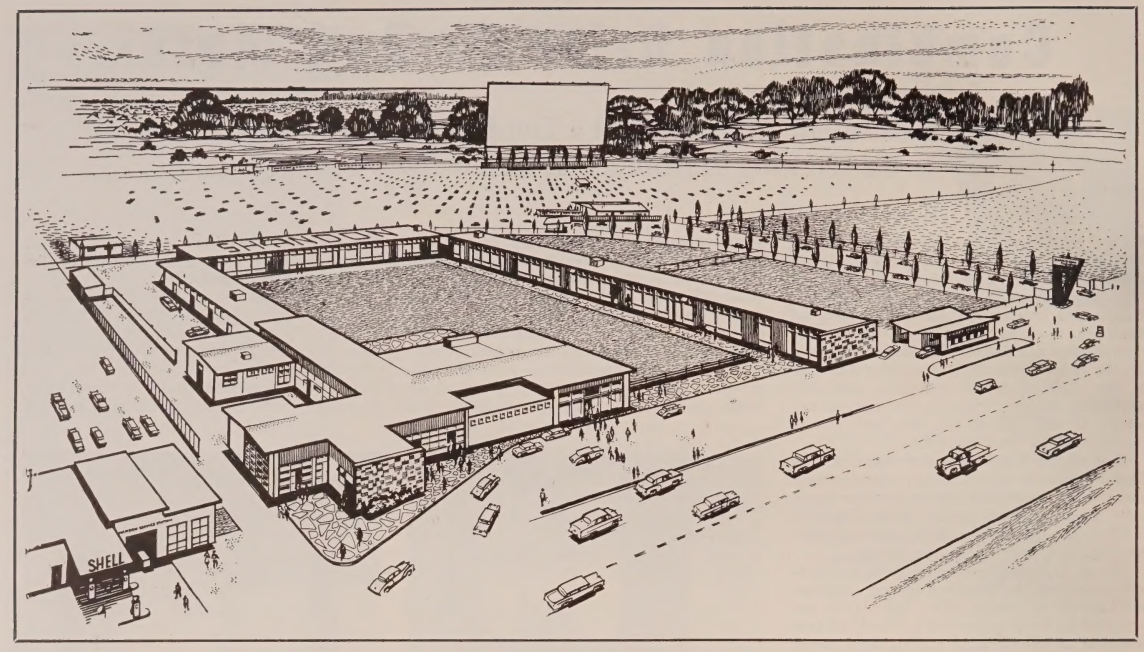
The M. G. Henderson enterprises of Adelaide, operating the Shandon-Seaton situation, and active in construction and other related fields, have completed a circuit of four Shandon Drive-Ins in less than three years. The Seaton theatre, the largest of the quartet and one of the largest in Australia, accommodates 1,003 cars. Others in the circuit are the Shandon Drive-Ins at Elizabeth (575 cars, opened in May, 1958) and Port Pirie (575 cars, opened September, 1957), both in South Australia, and the Shandon at Warrnambool, Victoria, for 700 cars, opened in December, 1956. At present, the Seaton theatre illustrated here, is the only one with an adjoining motel. However, two additional drive-ins will be started, probably this year, one in the Adelaide area and the other near Wyhalla. The success of the Seaton adjunct indicates that hotels, motels, or both, may be incorporated at the new sites or added to older ones. Indeed, the Seaton theatre already is slated for extensive remodeling and expansion.

The Shandon Drive-Ins, apart from the essential difference between them in the terrain on which they are situated, are almost identical in design, construction, and equipment. (See next page for sample Reference Data). The M. G. Henderson and Associated Companies' Australian Building Company has developed a screen which has become standard for all the Shandons. At Seaton, the screen is 100 feet by 44 feet, mounted on tubular steel framework. It is faced with zinc-annealed flat sheet iron and a special, highly reflective paint manufactured by the Endura Paint Company.

Patrons at the Shandon situations, including the Seaton where the hotel-motel offers separate dining facilities, arrive about an hour before the program starts to have dinner, although the hot menu is served until the last intermission. Meals may be taken away to patrons' cars upon payment of a nominal



ABOVE, left, the Shandon Drive-In screen seen from a room in the adjoining motel. Note the speaker on the wall to the left of the window. Right, the screen, seen from the refreshment building, glistens in the brilliant Australian sunlight. Below, the courtyard of the motel proper with the drive-in screen in the background. Most of the motel rooms have excellent screen viewing.



THE RENDERING shows the general layout of the Shandon outdoor theatre, gas station, and motel.

refundable deposit for the crockery and silverware. Like many Australian drive-ins, the Shandon theatres offer very comprehensive menus.

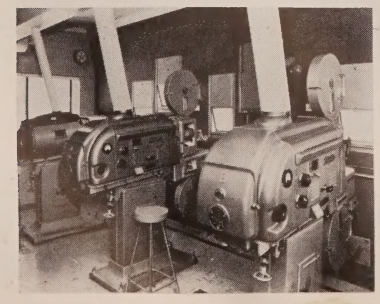
The Shandon operations, while characteristic of the high quality of the drive-in theatre industry in Australia, point the way to what can very well be an entirely new area for exploration by outdoor theatres around the world.

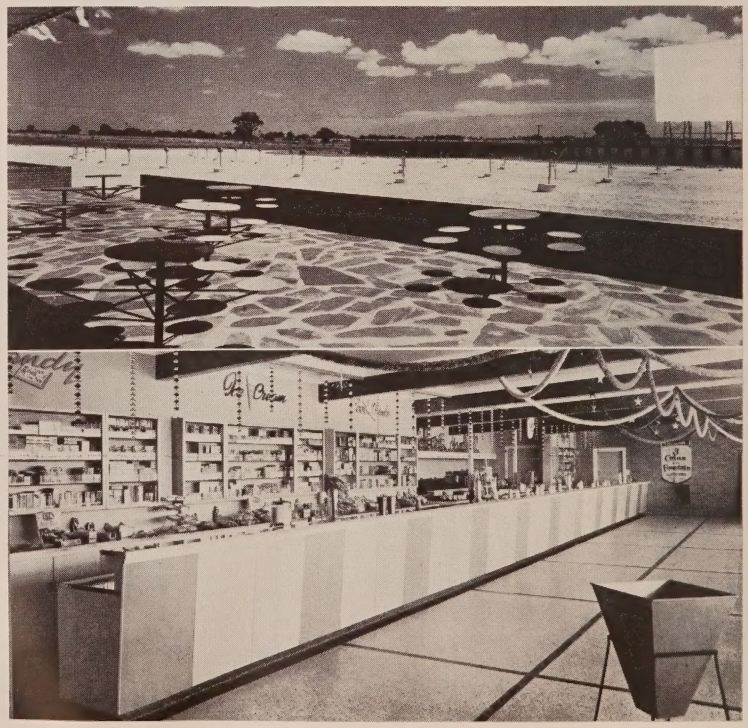
Vigorous thinking of this kind about the further expansion of drive-ins should bring about an even healthier industry in many different localities. The added facilities of this kind are just one more way, it has been found in Australia, of drawing greater patronage to the drive-in.

REFERENCE DATA
(Shandon Drive-In, Seaton)

OWNER & OPERATOR: Shandon Drive-In Theatres, Ltd.
CAR CAPACITY: 1,003.
COST OF BUILDING: £100,000 ($280,000).
COST OF EQUIPMENT: £14,000 ($39,200).
SIZE OF LOT: 15 acres.

Amplifiers: RCA.
In-Car Speakers: RCA.
Lenses: Angenieux; Hilux for C'Scope.
Projection Lamps: Thomson-Houston.
Projection Machines: Super Standards.
Rectifiers: Westinghouse.
Screen: Australian Building Company, 100 by 44 feet.
Sound: RCA.
Supply Dealer: RCA of Australia Pty., Ltd.



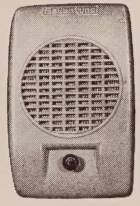


Where REASONABLE COST and High QUALITY meet

Ballantyne DRIVE-IN EQUIPMENT

SPEAKERS:

A and Q SERIES



Famous Ballantyne Dub'l-Cones are unequalled. Protected from shock, pressure, weather and water. Permanently fixed magnet. No shifting — no voice coil drag. Die-cast aluminum case with reinforced grill openings, reinforced bosses, removable hanger clip, and enclosed volume control. Construction gives exceptional fidelity in range and reception. Outer cone adds a mellow richness resulting in tone quality unsurpassed in any other speaker.

Z SERIES

New Ballantyne "Z" Series with drop-in outer cone and perforated aluminum speaker guard are amazingly low priced. Plenty of other features, too—plug-in terminals permit simplified post servicing, two screws to loosen, repair or replace without special tools—no soldering, no glue, and in a matter of seconds. Die-cast aluminum case with reinforced speaker grill.

F SERIES

Here's economy overflowing with quality at the lowest price ever for so much. Die-cast aluminum case. Reinforced speaker grill. Calibrated air chamber gives fidelity of range. Plug-in connectors for simplified servicing—done in a matter of seconds.

O SERIES

Has all the features of the "F" Series plus a powerful 1.57 magnet.

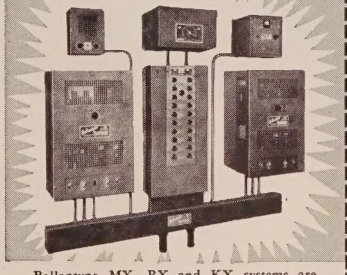
W-E SERIES

Full size die-cast aluminum case with perforated aluminum speaker guard and calibrated air chamber. .08 oz. permanently positioned magnet — no shifting of magnet, no voice coil drag. Continual top performance. Shock rubber cushion mounting. Tamper-proof reinforced grill. Plug-in wiring for servicing right at post.

E SERIES

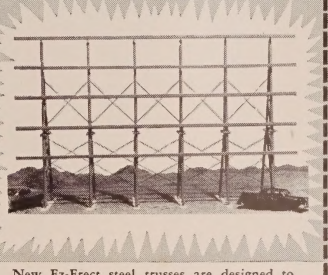
Tops in single cone speakers. Available with or without perforated, aluminum speaker guard.

DRIVE-IN AMPLIFICATION



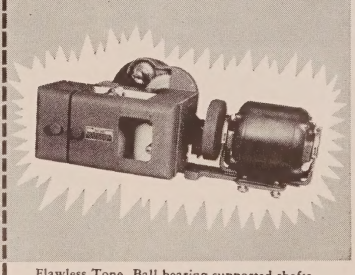
Ballantyne MX, RX and KX systems are specifically engineered for drive-ins. They are not adaptations. They are designed and engineered exclusively for drive-ins with ample power for the present and extra power for the future.

EZ-ERECT STEEL SCREEN TOWERS



New Ez-Erect steel trusses are designed to give the two most important features of tower construction—exceptional strength and economy of erection. Ez-Erect steel trusses are designed to be shipped in two sections by any common carrier. Trusses are assembled on the ground and raised in groups of two using little mechanized equipment. Trench type footings are used instead of complicated forms. Unlimited width. Engineered for winds of over 100 m.p.h.

MODEL 6 SOUNDHEADS



Flawless Tone. Ball bearing supported shafts, perfectly balanced filter flywheel. Exciter lamp assembly tilts out at 45 degrees. Years and years of use by hundreds of drive-ins throughout the country are the best testimonial of all for Ballantyne Model 6 Soundheads.

Ballantyne Planning— The EXTRA that may be worth hundreds of dollars to you.

When it comes to drive-ins, the Ballantyne Company has always taken pride in being more than just a manufacturer of sound and projection equipment. We feel that countless owners and operators want help and advice on how to build a better, more economical drive-in. When you purchase Ballantyne equipment, free help and plans come with the job. You get the background of experienced Ballantyne engineers who know drive-ins and have planned them by the hundreds. Take two minutes, drop us a line if you are planning a new drive-in.

The Ballantyne Company

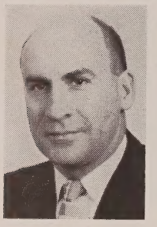
1712 JACKSON STREET OMAHA 2, NEBRASKA

The Roof Top Drive-In Theatre

Now, the Outdoor Theatre Atop a Shopping Center Becomes a Practical and Highly Profitable Unit

By Jack K. Vogel
Architectural-Engineer

■ The drive-in theatre finally has found its place in the sun: marriage with the rapidly expanding, deluxe shopping and recreation centers. Until recently, the developer of shopping centers had frowned upon the inclusion of a lowly drive-in theatre in his high minded plans.



VOGEL

Eyes have been opened and planning has been reappraised, all because of the new Walter Reade Drive-In, built on top of a parking garage, serving the new downtown Dover, N. J., Shopping Center. My association with this project was as a consultant for Walter Reade Theatres to redesign, solve, and bring to a conclusion the continuing problems of building this first second story drive-in. (See Page 14).

A few years back, almost every newly conceived shopping center of consequential size included a spacious indoor theatre as an integal part. Lately, shopping center developers have been discouraged from the inclusion of this type of showcase. It is true that in recent years some developers have included drive-in theatres, if their property was extensive enough, but these have generally been planned independently, and thus proper and integral planning has not been achieved. None have really combined the facilities of both the stores and the outdoor theatre into an integral, intermingled operation. It is this that has been envisioned.

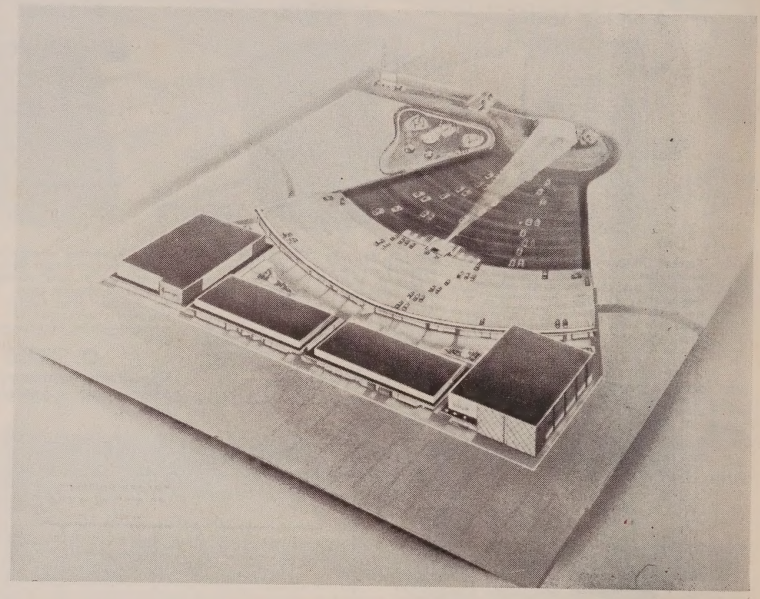
The rendering, Figure One, portrays a plan for a 1,000 car drive-in which has nine of the ramps on the ground level (in the darker shading) and the next six on the roof (in lighter shading). Under this roof is the major part of the regular stores which face a mall, across which are situated two department stores and smaller regular stores. The department stores help mask the area lighting from the screen surface. Of course, there is no such problem with the stores located under the rear ramp area.

The drawing of Figure Two gives an idea of the layout of the stores beneath the rear ramp area. Note the desirable features of rear truck delivery under cover, employee and public parking under cover, and excess storage under cover.

The Concession Building, which is shown more clearly in the model layout, Figure Three (Page 39) houses a restaurant and a separate cafeteria operation in the same area. Thus, it would be operated day and night. Daytime shoppers parking on the roof deck have almost direct access to all stores by stairs and escalators. They even can stay for the movie at night, after eating at the conveniently located restaurant.

Continued on Page 39

FIGURE ONE: A plan for a 1,000 car drive-in with nine ramps (shaded) on ground, balance on roof. Under the roof is the major part of regular stores.



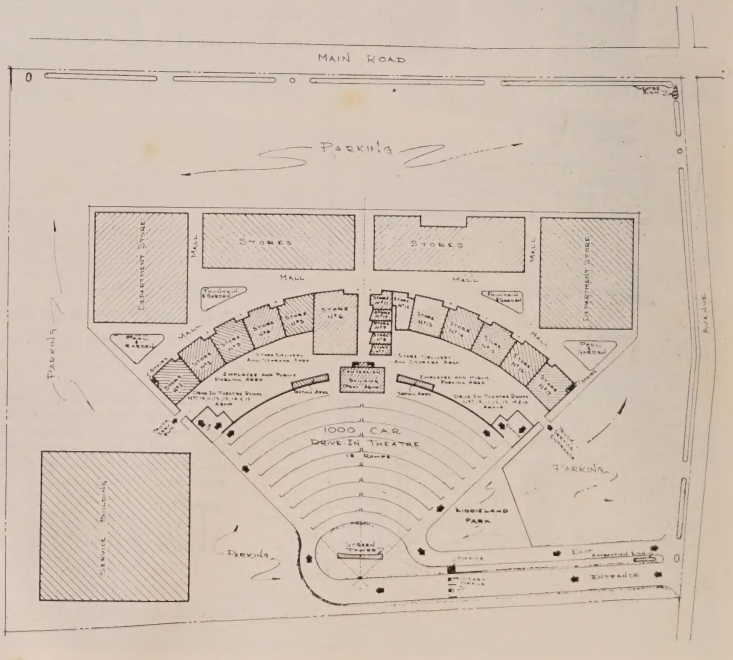


FIGURE TWO: The layout of the stores and other buildings beneath the rear ramp area of the two level drive-in shown in the Figure One rendering.

Move to HIGHER QUALITY at LOWER PRICES with . . .

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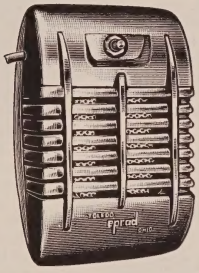
The EPRAD reputation is built on engineering know-how, top-quality, trouble free performance — all yours at unbelievably low prices. So why settle for anything but the best? And the best to be had—is EPRAD. Consult your favorite dealer or write, wire or call for money saving suggestions on your next important installation or replacement.

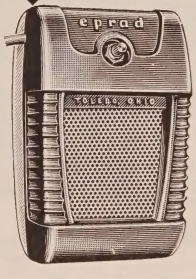
the MERIT
Attractive . . . . . permanent mold metal case, perforated aluminum grill, heavy 1.47 oz. "Alnico 5" magnet, with glass fiber tone filter. Big 4 inch driver unit with silicone treated cone for extra long life, with cork gasket assures you low maintenance cost. REASONABLY PRICED . . . fast delivery . . .



the HUMDINGER
This is a Humdinger of a bargain—the lowest price ever for an in-the-car speaker. Perfect for low cost replacement of worn out speakers. 3½ inch driver unit enclosed in Navy Crashboat type Fiberglas gives you high performance at low, low cost. Fits all junction boxes . . . . . .

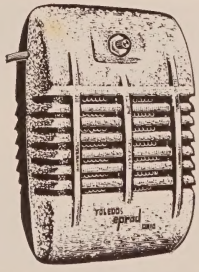
Many successful operators utilize their surplus acreage by operating their own broadcasting station. EPRAD engineers can help you do the same by providing experienced, expert consultation, planning and construction supervision. Write for details.

the MELLOTONE
4 inch driver unit with perforated aluminum grill, enclosed in a rugged, weather resistant Fiberglas case. Has silicone treated cone, knurled volume control and fits all junction boxes. Above average reproduction qualities . . .

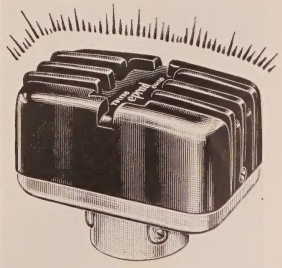


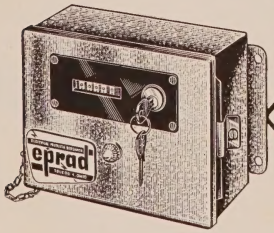
"GLO-TOP" junction box
With available down lights (optional), posts are illuminated for faster and safer parking and translucent top glows in your choice of green, red, amber or blue. Will not short out. Reasonably priced.

the HI-FI
Recognized as the best! Quality features include: Permanent mold aluminum case, 1.47 oz. "Alnico 5" magnet, animal fiber cone, glass fiber tone filter, silicone treated driver unit, recessed volume control, two tone Epoxy finish. The HI-FI is quality . . . EPRAD QUALITY . . . of which there is none better . . . . . hear it now.

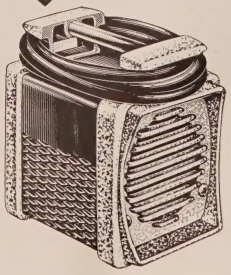


HOT-SHOT in-the-car heaters
Heats quickly and safely and is least subject to damage. Designed for easy handling and stacking. Quick acting element and fan heats any car to comfortable warmth in seconds. Most models UL approved. Price and quality wise . . . your best buy today.





CAR COUNTERS
Available in units such as Model 22125 (illustrated) to count cars in one box office lane up to complete car counting and box office accounting systems capable of handling 4 box offices. New durable Switch-Mat is made of tough Neoprene rubber vulcanized to a steel base plate which will operate year 'round . . . in all weather . . .



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All Year Drive-In Comfort Is Here

A Combination Heating and Cooling System Offers One Solution to a Familiar Problem of Drive-Ins

■ A NEW TYPE OF EQUIPMENT for drive-ins which reached the market recently may add a significant dimension to the growing trend toward year 'round outdoor theatre operation. This equipment, offered by BTU Industries, Inc., and characterized by the manufacturer as "a system for year 'round comfort conditioning," provides both cold weather in-car heating and hot weather in-car air conditioning in the same package.

Types of Heating Systems

Heating or air conditioning can be provided for a number of separate use points, such as the various rooms in a building or a number of cars parked in a theatre field, in two ways. One is to have individual heating or cooling units (energy converters) at each use point. A familiar example is the traditional fireplace or gas log in every room in early domestic heating practice. The other approach is to distribute hot or cold fluid (air, water, steam) to the various use points from a central unit.

In the central type system, it is the end product (hot or cold fluid) that is distributed, whereas in the individual unit system, the raw energy (fuel, electricity) must be distributed and some provision made for energy conversion at the use point. Each has its merits and its shortcomings but, in general, the central type system is preferred where practicable.

In the indoor field, for example, the central type heating system has been generally accepted, of course, for some time for reasons of economy and convenience, and the growing trend is toward central air conditioning for similar reasons.

By James M. Relph
General Manager
BTU Industries, Inc.

In the drive-in field, a central type system presents some unusual problems, revolving mainly around the relatively greater distances between individual use points, and the fact that the entire surface area around each use point is a traffic area that must be kept open at all times. Up to the present time, problems such as these have restricted drive-in heating systems to the unit type, and heretofore no air conditioning of any type has been available.

THE JET-HEET system has been installed for 500 cars at the Totowa Drive-In, Totowa, New Jersey.

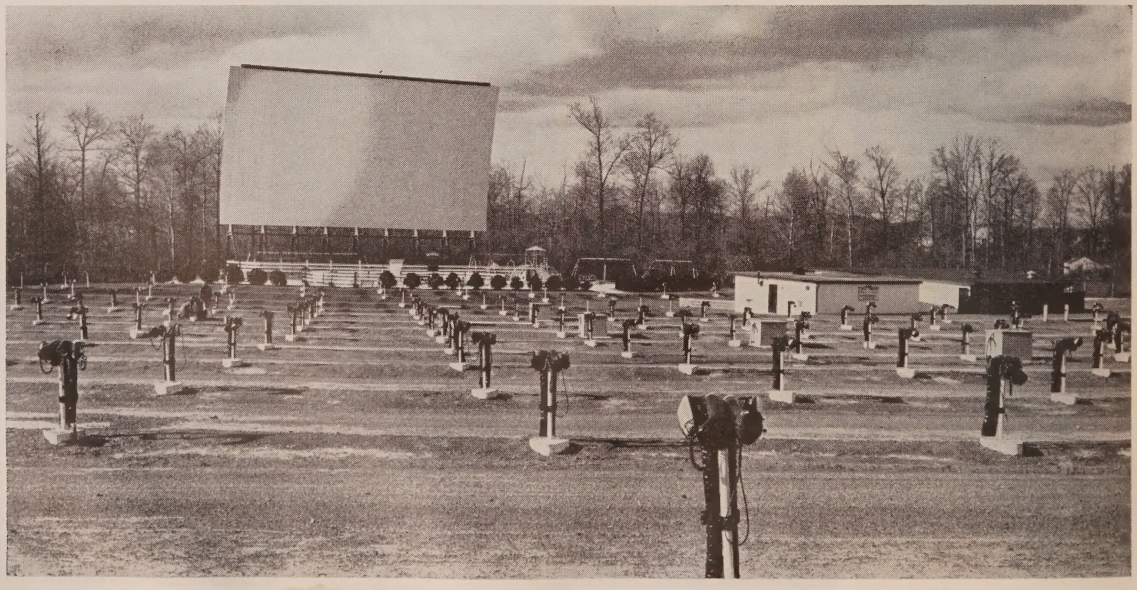
The Jet-Heet System

The new system for drive-ins, marketed under the trade name "Jet-Heet," is a central type system. It is an outgrowth of a domestic heating and air conditioning development by Jet-Heet, Inc., an engineering firm. As certain unique features of the Jet-Heet domestic system made it practical for adaptation to drive-ins, a brief description of the domestic system will help to explain the drive-in application.

In the Jet-Heet domestic system, conventional large sheet metal air ducts are replaced by small (two inch I. D.) prefabricated ducts that install like BX cable. This type of air distribution system requires a furnace that will deliver air at high pressure and about four times normal temperature, so that a small quantity of very hot air will carry the required heat to each room. Before being discharged into the room, the small volume of high temperature air is mixed with a large volume of room air to obtain a moderate temperature air mixture at the discharge outlet.

Furnace Design

To obtain the high temperature high pressure air required, Jet-Heet engineers created the furnace unit shown in the schematic illustration (Page 36). This furnace has a jet-engine type burner which delivers high temperature gaseous combustion products to very narrow passages in a heat exchanger. Here the heat is transferred from these gases to fresh air which is forced by a blower through narrow adjacent passages in the heat exchanger. A small quantity of air from the same blower



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THE SAFEST HEAT for YOUR DRIVE-IN

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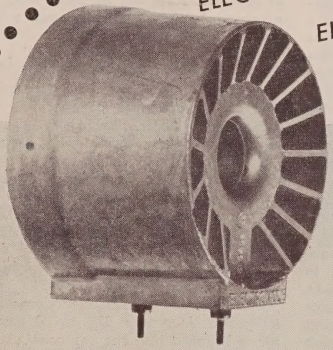
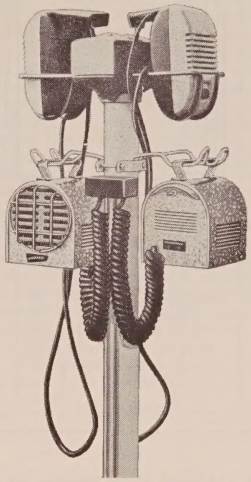
IN-CAR HEATERS



approved by Underwriters' Laboratories for outdoor use.



Above shows front and rear views of heater, mounted on speaker post. Easily accessible. Easy-to-grip handle and extra long, heavily insulated extension cord . . . Heater may be placed on dashboard, floor or any horizontal surface.

SAFEST *because*

Only Electromode Heaters have the exclusive Safety Grid Heating Element *(illustrated above)*. All electric wires are insulated, embedded and completely sealed *inside* this finned aluminum casting. There is positively no danger of fire, shock, or burn. Heat is fan-circulated throughout the car and heater case remains cool to touch. A built-in Safety Switch automatically prevents overheating.

ELECTROMODE ALL-STAR FEATURES

- ★ Fan-Circulated Electric Heat keeps Windshield Dry and Clear
- ★ No Dangerous Fumes
- ★ Completely Weather-Proofed and Grounded
- ★ Quiet Operation. No interference with Speaker
- ★ Sturdily Constructed to "Take It"
- ★ Scratch-Resistant Silver Grey Finish

CHILD-PROOF

The Electromode is known as the "child-proof" heater. Positively no exposed hot wires or glowing coils. Completely weather-proofed and grounded. May be handled with complete safety by children or adults, even while in operation.

INDOOR COMFORT FOR YEAR 'ROUND OPERATION

Other Electromode Electric Heaters For:

PROJECTION ROOMS • OFFICES • TICKET BOOTHS REFRESHMENT STANDS

Made by World's Leading Exclusive Manufacturer of All-Electric Heaters for HOME • INDUSTRY • FARM

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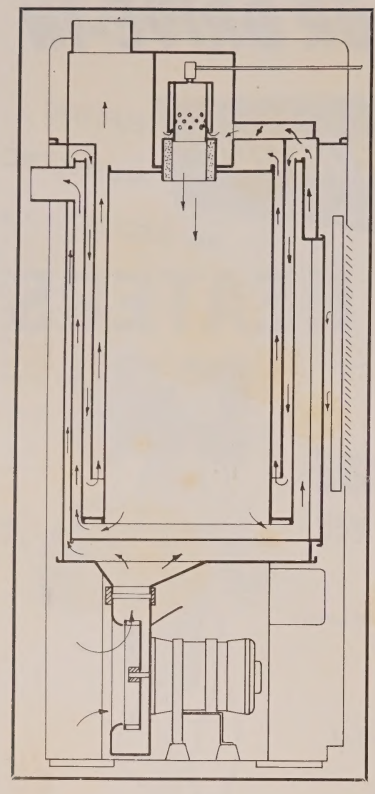
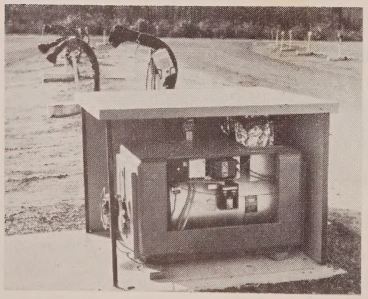


THE DIAGRAM above indicates the design and function of the Jet-Heet Furnace, shown installed on a drive-in ramp below in a cut-away casing. Bottom, the heating-cooling tube is placed in car.



is diverted to the burner for combustion air. The fresh air and hot flue gases flow in opposite directions ("counterflow") for most efficient heat extraction per unit of heat exchange surface, thus keeping the unit very compact. Furthermore, the burner operates with a positive pressure in the combustion space so that no chimney is required to produce a draft. This minimizes air flow through the flue passages to decrease stand-by losses when the furnace is not operating.

Several thousand Jet-Heet furnace systems were sold and installed in homes for a mass field test, and performance characteristics were sufficiently impressive that the Navy Department specified Jet-Heet furnaces for its Antarctic "Operation Deepfreeze." The same small size ductwork that distributes hot air from the Jet-Heet furnace also is usable for air conditioning. Small quantities of relatively low temperature air are distributed from a high pressure air conditioner and mixed at each room before discharge.

Air Conditioning

Heretofore, utilizing the same furnace ductwork for air conditioning has led to problems of ducts sweating on the outside, because conventional large sheetmetal ducts are costly to insulate. The Jet-Heet concept of distributing a small quantity of much colder air through small prefabricated insulated ducts eliminated this problem. Since the air in the Jet-Heet unit is cooled sufficiently to freeze out practically all water, it has an added advantage of supplying completely dry cold air at the discharge outlets. This is an equally valuable feature in drive-in air conditioning.

The concept of circulating relatively small quantities of air at relatively high temperature for heating and relatively low temperature for cooling represented a major step toward overcoming hot and cold air distribution problems for applications such as that at the drive-in, where long distribution runs are required. Total heat (or cooling) delivered is a combined function of air temperature and air volume, much as with electrical systems where the power delivered is a combined function of current and voltage. Just as a low voltage, high current electric power system requires relatively large wires to transmit a given amount of power, so also a low temperature high air volume heat system requires relatively large ducts to transmit a given amount of heat energy.

Features For The Drive-In

In the Jet-Heet Drive-In System, heated (or cooled) air is distributed through an underground duct to individual parking stations. At each station, branch tubes carry the air to individual diffusers that are placed in the car window.

Among the features of the domestic system that helped bridge the gap to a drive-in system, the following were important: First, a high temperature, low volume air system makes it possible to distribute air long distances (up to 150 feet) through relatively small underground ducts (four to six inch I. D.), thereby to serve up to 31 cars from a single unit. Larger ducts required by a higher volume system would have very high heat losses, adversely affecting operating cost and reducing the number of cars serviceable by a unit of given size. Larger ducts also would be extremely costly to purchase and install.

Second, the furnace unit itself is very compact and can be installed with its major axis parallel to the ground, giving an inconspicuous silhouette, lower than an automobile, that does not block line of sight.

Third, the high pressure burner, requiring no natural draft, eliminates the need for chimneys which could not be tolerated on a drive-in field. For air conditioning, since the Jet-Heet design puts out dryer air than most conventional air conditioners, hot weather in-car comfort is further augmented. Such comfort can be affected both by reducing the water content (humidity) in the air and by lowering the air temperature. In addition, the circulation of air alone will give a feeling of comfort. This can be done with the high-pressure Jet-Heet blower, even without any cooling of the air.

Advantages For The Drive-In

As a drive-in system, the "central" heating and air conditioning concept has many inherent advantages. Perhaps of greatest significance is the air conditioning aspect, as the same distribution system works year around, eliminating all "open window" problems. Operating costs are low; each 100,000 BTU furnace consumes a maximum of 0.9 GPH of Number 2 fuel oil to heat 31 cars in the winter, while a five-ton air conditioner serves the same number of cars in the summer, under most severe conditions. As outdoor temperatures moderate, fuel consumption decreases. Up to 30 cfm of fresh air is brought into the car constantly, to give continuous replacement of stale air and to distribute heat or cold air uniformly. The system is completely safe, as there is no combustion or other energy conversion within the car. There is no incentive to theft, as the air tubes and diffusers have no practical use elsewhere.

The air conditioner companion for the Jet-Heet furnace previously described is a five-ton air cooled unit. It is a generally conventional condenser-compressor type, being unique only in that a deeper than normal coil is used to obtain lower than normal air temperatures. It is powered by 220 volt electric service, and has approximately the same dimensions as the companion furnace.

The furnace unit and/or air conditioner assembly are completely enclosed in a single housing having a top access panel for servicing of the units. Outside air is brought into the housing through a filter panel by a high pressure blower which forces the air across the evaporator coil and then into the inlet pipe leading into the underground main. Heated air from the furnace enters the inlet pipe through a branch connection, so that there is some tempering of the heated air which leaves the furnace at 350° F. When switchover is made in the spring from heating to cooling, a damper on the furnace outlet is closed to prevent backflow through the furnace unit.

At each housing, individual concealed switches are accessible from outside the housing to control the furnace and air conditioner units. Alternatively, a master switch panel can be installed in the projection booth or concession stand to allow selective operation of the units from a central location such as the projection booth or manager's office.

For the furnace units only, 20 ampere service to each unit is adequate, and usually is handled by local electrical contractors. For combination heating and air conditioning, 50 ampere service is needed.

Fuel Type And Cost

Fuel for the furnace units can be either gas or oil, depending on which will give the most favorable combination of initial and operating costs. In the case of gas, the piping (like the electrical work) utilizes mainly the same trench system as the underground ductwork. In the case of fuel oil, several alterna-

tives are available. For areas where above-ground storage is permitted by local codes, a 55 gallon tank for each unit, installed by the unit housing, is most economical on first cost. Where burial is mandatory, tanks from 275 gallons to 1000 gallons or more can be used, each serving up to five furnace units. In most areas the delivered price of fuel oil depends to some extent on the quantity taken by the customer on each delivery. The proper size tank is selected on the basis of the arrangement of furnaces required in the field, which affects the number that can be served per tank, and the applicable fuel oil costs.

Underground Ductwork

The underground ductwork is a major component. It is placed in a trench 12 inches wide and 18 inches deep, opened and back-filled by local general contractors. This main duct must be rugged to withstand abuse in shipping and installation, as well as to resist traffic loads, shifting ground with changing seasons, and different soil conditions. It must be well insulated, completely watertight and lend itself to rapid, economical installation.

A good combination of these characteristics is found in a structure of urethane foam plastic. This material has exceptional insulation characteristics, with a K factor of 0.23. The material is formed one inch thick over an aluminum foil core. At the outer surface of the foam, a coil of wire is embedded to provide structural rigidity. This complete assembly is covered by a watertight jacket of plastic material, with suitable provision for rapid coupling to adjacent sections of the pipe. Since approximately 18 feet of underground pipe are required for each pair of speakers served, pipe costs are a prime factor in total system cost, and a continuing cost reduction engineering program is directed toward this vital component of the system.

Branch Tubes

The branch tubes which lead upward at each speaker station are detachable at ground level for easy replacement in case of damage by careless drivers. These tubes comprise a two inch diameter lock-seam aluminum core, giving flexibility and durability. A one inch covering of fiberglass insulation over the core is protected by a fiberglass fabric jacket. An outer covering of plastic material provides a waterproof covering. The tubes are attached to the speaker post by a metal bracket. The tubes normally drape over the speaker junction box when not in use. The elastic return cords formerly used to return the tube to the junction box are eliminated by placing the holding bracket more than half way up the tube so that the tube cannot touch the ground even if it is not replaced on the junction box.

Diffusers

The diffuser that distributes air inside the car window also has been the subject of considerable engineering study. The basic structure consists of an aluminum casting with a circular neck portion that fits inside the core of the branch tube. The casting has a coating of urethane foam insulation that will insure a moderate surface temperature for handling (placement in the car window opening), and also to avoid any damage to the glass or window frame. There are four elongated openings in the face of the diffuser. Two of these direct air downward, front and rear. The other two direct air upward, front and rear. This arrangement develops air curtains that sheath the walls, floor, and roof to give uniform distribution throughout the car, without direct air flow on any passenger.

THE FLEXIBLE CONNECTIONS for the Jet-Heet system are a plus factor. They are almost impervious to damage, weather, pilfering or other loss.

The openings at the window on each side of the diffuser serve as discharge vents for stale air which is displaced by the incoming fresh air. Originally, each diffuser included an individual damper control for regulating the air flow. Field use has established that this is an unnecessary complication, as any desired adjustment can be made by varying a window opening either at the inlet window or at any of the others. In one sense, this is an advantage since any passenger can open his or her window to modify the local temperature in that part of the car.

Since there will be some air temperature change along the underground main between the furnace or air conditioner and the outermost station on each line, compensation is needed to assure that all stations will receive equivalent total heating or cooling. This is achieved by a system of balancing dampers placed in the branch tubes at ground level. When the system is installed and first placed in operation, these dampers are adjusted individually (and then locked permanently in position) to give a progressive increase in airflow at each station further removed from the central unit. Thus, in the case of heating, the outermost stations receive maximum airflow at minimum temperature, while those closest to the furnace receive minimum airflow at maximum temperature. The same applies with relative temperatures reversed, in the case of cooling. The result is a complete balance in total heating and cooling delivered at each station.

Operating Costs

Experience on operating costs for the first installation of this equipment in Eastern Management Corporation's drive-in at Totowa, N.J., has fully substantiated the claims of less than two cents per night per car. On maintenance, the Jet-Heet furnace units themselves have required an average of less than one service call per furnace per year in domestic systems, where the duty cycle is 'round the clock. Operating at drive-ins for an average of less than one-fourth the domestic heating duty cycle, the units should easily surpass this record.

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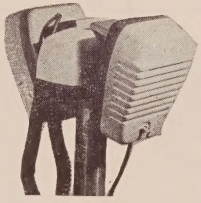
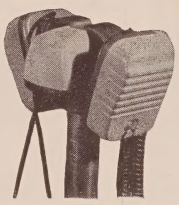
At the present time, all Jet-Heet system sales and installations are handled directly by the manufacturer, to insure proper adaptation of the equipment to local conditions. Quotations are based on a preliminary engineering survey to insure a sound basis for most economical pricing in each theatre. The nominal survey charge is applied to the purchase price if an order is placed. Engineering supervision is provided as part of the installation contract, and arrangements made with local contractors covering electrical work, trenching, and similar standard work required. Service arrangements, including training where needed, also are made through local heating and air conditioning contractors.

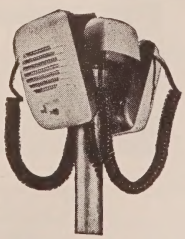
It will be interesting, indeed, to see what effect this new application of central heating and, more importantly, the advent of air conditioning, may prove to have on drive-in attendance and operation.



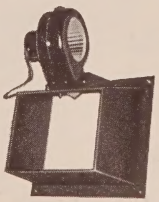
DELUXE SPEAKER



AMBASSADOR SPEAKER



UNIVERSAL SPEAKER



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Heater Voltage Requirements

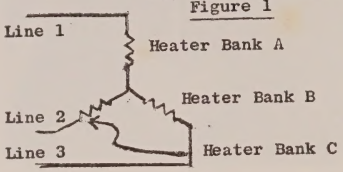
A Manufacturer Clarifies some of the Complex Theories Involved in Electric Car Heating System Installations

By Al Boudouris
President
EPRAD Company

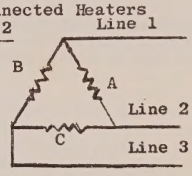
■ There has been considerable misunderstanding regarding voltage and current requirements in heater installations. Although this involves the somewhat complex theory of polyphase electrical systems, the problem can be clarified up to a point.

Heater systems are installed in three-phase systems which may be one of two common configurations: (1) the wye (or star) connection, and (2) the delta (or mesh) connection. These connections are shown right:

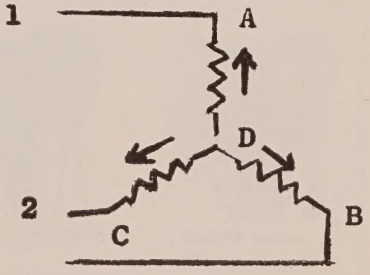
Wye-Connected Heaters
Figure 1

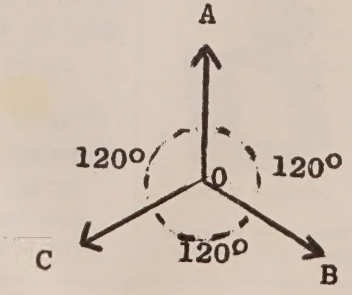


Delta-Connected Heaters
Figure 2

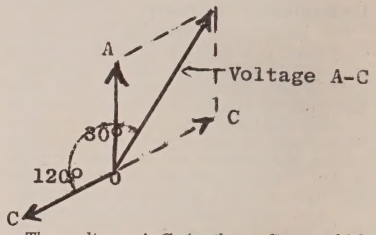


The voltage across the feeder lines are 120° out of phase, and are assumed to be equal. This means that although they have equal measured voltages, the separate voltage alterations occur at different intervals so that no two line voltages are simultaneously maximum or minimum. This requires that we use vectors to determine the current and voltage relationships. Since the heaters are essentially resistive, we can assume that the voltages and corresponding currents are in phase. In this figure, the current through each line is equal to the current through the heater bank in series with it. However, the voltage must be represented vectorially:

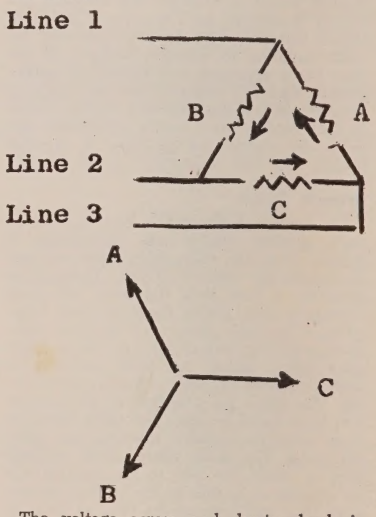




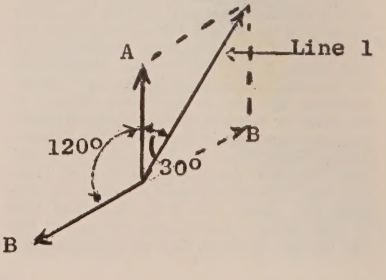
Now if we wish to know the voltage between lines 1 and 2, we find that we must subtract the vector "C" from the vector "A." This is done as follows:



The voltage A-C is the voltage which exists between lines 1 and 2, and may be computed trigonometrically to show that the line voltage is 1.73 times the voltage across the heater bank. Now, consider the Delta connection:



The voltage across each heater bank is now equal to the line voltage (voltage between any two lines). If the heater bank loads are equal (balanced load), the currents A, B, and C are equal in magnitude, but differ in phase by 120°. The current through Line 1 is the vector difference between current "A" and "B." Thus:



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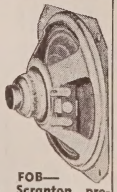

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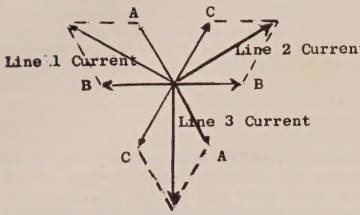
By trigonometry, we find that the line current is 1.73 times the current through each heater bank. The total solution is as follows:



$I_a = I_b = I_c$

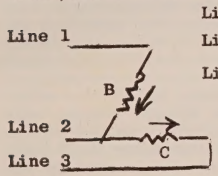
$I_1 = 1.73\ I_a$

$I_2 = 1.73\ I_b$

$I_3 = 1.73\ I_c$

$I_1 = I_2 = I_3$

Now, if one heater bank should open, say heater bank "A," the vector "A" would go to zero, and the soultion would be as follows:

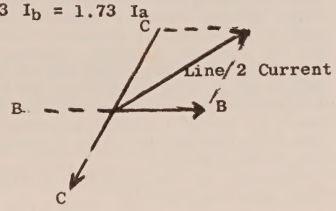


Line Current 1 = I_b

Line Current 2 = $1.73\ I_b = 1.73\ I_a$

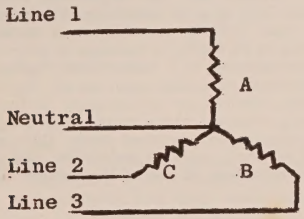
Line Current 3 = I_c

$I_b = I_c$

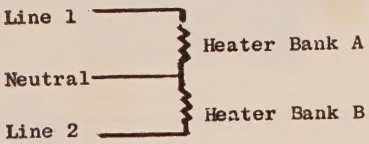


Other unbalanced loads may be computed in like manner.

Heaters may also be connected in a 4-wire wye configuration, where the fourth wire is neutral (common):



In this configuration, the neutral is usually grounded, and carries no current if the loads A, B, and C are equal. If the loads are unbalanced, a current will flow through the neutral wire in proportion to the net unbalance. The line currents are equal to the respective heater bank currents, and the line-to-line voltage is equal to 1.73 times the heater-bank voltage. The line-to-neutral voltage is equal to the heater-bank voltage. Some heater installations may use a single-phase, 3-wire system. In this configuration, one wire is neutral.



The line-to-line voltage is double the line-to-neutral voltage. The line current is equal to the heater-bank current.

Fusing

A fuse is a protective device which is inserted in a line to prevent damaging currents to flow. Since heater resistances may fluctuate ±10% in manufacture, the fuse size should be approximately 25 percent greater than the computed maximum line current.

Wire Size

Wire size is based upon the safe load current for the particular installation conditions. It is the heating effect of a current passing through a conductor that is the ultimate consideration. The smaller the wire, the greater the resistance, and the greater the power (heat) dissipation in the wire.

For a direct burial installation, a wire size of 500 circular mils per ampere is considered the minimum safe limit, when using insulation of neoprene, polyethylene, or similar quality.

Assume that the computed line current is 160 amperes. The wire size would be 160 x 500 = 80,000 circular mils.

Wire size #1 (AWG) would be selected because it has a cross-sectional area of 83,700 circular mils (the next highest wire size). The resistance of this wire would be .118 ohms per 1000 feet at 40°F. When a current of 160 amperes is passed through 1000 feet of this wire (500 ft. run), the voltage drop is 19 volts, and the power loss in the wire is 3,040 watts. The line fuse should be 200 amperes (maximum capacity).

It is to be hoped that the foregoing simplified explanation of some of the principles involved in heater voltages will assist many exhibitors who have been perplexed in this respect while trying to master the problem.

ROOF TOP DRIVE-IN

Continued from Page 32

Development of a model (Figure Three) opened up possibilities of just about any size recreation, entertainment, and trading center. By close examination of the model, one can readily visualize a scaled down version eliminating the mall and the stores at the front. The remaining stores would then all be under the roof deck ramps. Any further reduction in stores would again depend on the potential trading area, financial support, property availability, and other factors peculiar to the specific location.

Trading center developers of today should consult with a drive-in theatre design engineer to implement their ideas and to project their planning into a functional and positive development for the end result of a center truly giving the public maximum service and entertainment facilities.

Such developers should not make the mistake of adding a drive-in theatre as an afterthought, which is what happened, in general, in the case of the Dover Drive-In, with the result that many problems were encountered that could have been avoided through some careful planning.

Through the lesson of the Dover Drive-In, it has been possible to develop such a layout as that in Figure One, in which foreseeable difficulties have been anticipated, although individual tailoring is nonetheless essential at the time of construction.

One way in which we have been able to capitalize on the problems which arose at the Dover is in design of a mall-type layout for future proposed theatres of this kind. Department stores and smaller shops in the mall area would be accessible in various agreeable ways; on the other hand, the stores under the ramp area enjoy such advantages as rear truck delivery under cover, as well as excess storage under cover.

Lighting in the proposed layout has been directed away from the screen tower surface and the ramp area by means of the high department stores and the shops beneath; the problem would be further reduced, of course, by shielding parking lot lights properly.

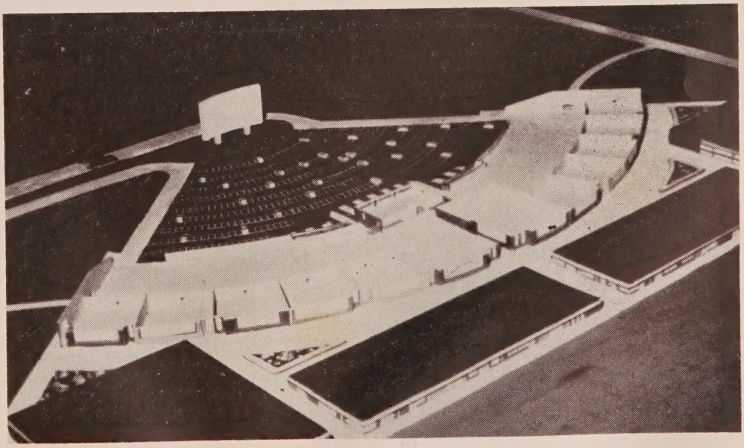


FIGURE THREE: A model layout of Mr. Vogel's roof top drive-in, which has been displayed at an industry convention and has attracted wide interest both in and out of the industry.

Stereophonic Sound For Theatres

A Detailed Review of Stereophonic Sound Principles, Equipment, Utilization, Operation, and Maintenance

By LORIN D. GRIGNON
Development Engineer
20th Century-Fox Studios

■ THIS ARTICLE IS PROMPTED by the thought that the exhibitor, disturbed by current events, may welcome a review of the principles of stereophonic sound and the necessary theatre equipments, so that he may intelligently assess his position in the business.

Looking Back

The motion picture industry was introduced to stereophonic sound in release print form in 1953 with the beginning of CinemaScope. In the following two or three years, approximately 4,000 theatres in the United States and Canada purchased and installed the equipment for exhibition of the CinemaScope type picture and the accompanying magnetic multiple-track stereophonic sound. Partly due to the exhibition innovations, those theatres which purchased the new equipments early, mostly paid off their initial investment with the increased business. Subsequently, principally due to exhibitor pressure, CinemaScope features were also released with single track photographic (optical) sound; as a result, 14,000 more theatres acquired the apparatus for presenting the picture portion but ignored completely the improved reproduction features of magnetic stereophonic sound and the chain reaction was triggered. Producers, with the exception of 20th Century-Fox, ceased making stereophonic sound prints, or made them in such small quantity that they were available only to a few first-run houses on certain types of pictures.

Experience and observation have disclosed that many theatres equipped with magnetic sound reproducing equipment do not bother to maintain their investment in operating condition and, therefore, exhibit the photographic sound track versions of features which were also released in stereophonic sound form. Much of theatre management did not consider it advantageous, even over the long term, to spend money for modifications or new equipment in order to keep up with new features, apparently reasoning that the public is not seriously concerned about the quality of the presentation. Theatre managers devoted considerable time to the popcorn and candybar operation probably because the results could be seen in black and white, although house cleanliness became more of a problem. In retrospect, knowing that the customer is initially attracted by the entertainment offered and expects comfortable and pleasant surroundings, one wonders whether the industry might have done better by paying a greater percentage of time to the method and quality of presentation of the product.

Obviously, all the foregoing is history. What about the future?

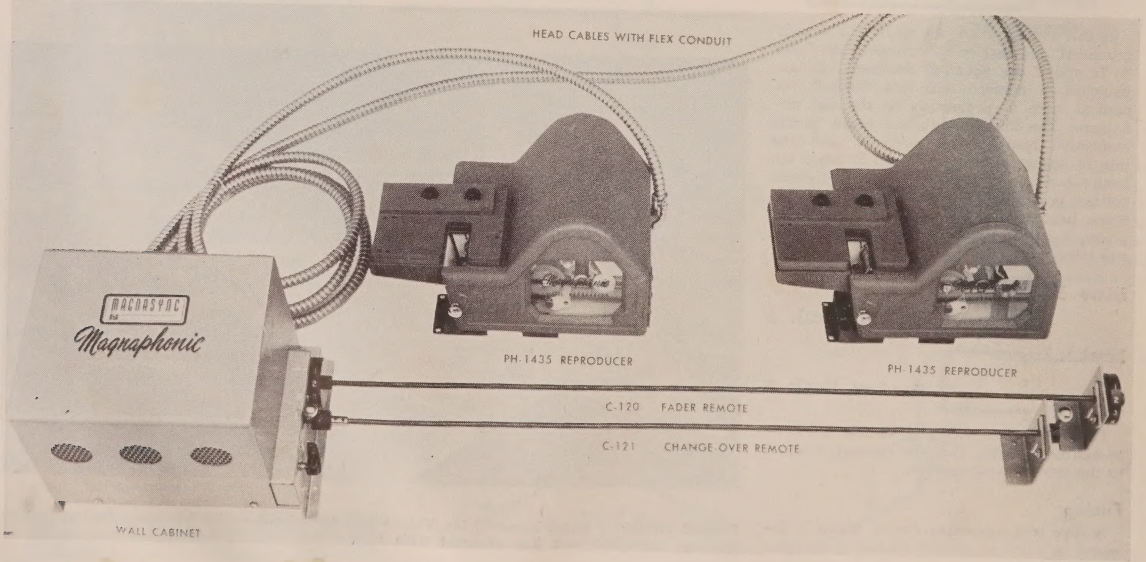
Looking Ahead

It is now well acknowledged that television is the real competitor of motion picture films in theatres. We must first face the fact that television and the motion picture industry deal with the same commodity—entertainment, education, or escape, in the form of "moving pictures with sound." The same stories are available to each medium, as are the same artists and settings. The only fundamental differences are *where* the commodity is delivered to the consumer and *how* it is presented; "where" is largely determined by "how." If we recognize that the principal competitive advantage of the motion picture industry resides in the manner and degree of quality of presentation — story staging; large, clear, bright picture images, free of flicker; realistic, intelligible sound with appropriate music and without foreign noises or distortion; pleasant surroundings — it is manifestly clear that the commodity must be shown in theatres or their equivalent, and that we must always be alert to take advantage of every improvement in presentation and *make this known to our customers.*

In 1953, the industry led all other entertainment media in technical matters; today it is largely behind, with a seeming willingness to "let the other fellow do it first." There are some who believe that the exhibitor may have misjudged the public's perception when he said, "The public doesn't know the difference."

Stereophonic Era

Today, stereophonic sound is in the home on magnetic tape and on records, it is on radio, and it is on television. The material in trade journals and the extent of advertising in all media, is sufficient to prove that "stereophonic" is a word widely known by non-technical people, even though the principles involved are not generally understood and a great deal of the equipment is executed improperly and installed badly. How much longer shall we wait before we also take full advantage of one of the aspects of su-



BELOW, Magnasync Magnetic Reproducers (Penthouses) for four-track CinemaScope stereophonic sound with wall mounted pre-amplifiers, fader, and changeover devices, and the head cables.

perior presentation, stereophonic sound?

The television industry advertises and exploits program material aggressively, mentioning each feature and novelty. Today, although stereophonic sound is otherwise generally widely publicized, this added feature of motion picture exhibition, when available, is not mentioned, or is relegated to the smallest print in the advertising copy. Some day an enterprising television advertiser may startle us with something like the following: "The John Doe Show with Stereophonic Sound — You can't hear this in your local theatre."

Exhibitor The Pacesetter

Many exhibitors whose theatres are equipped for stereophonic sound complain that they cannot get a sufficient number of prints from the producers to justify the equipment and maintenance cost; exhibitors whose theatres are not equipped state that there is little reason to install stereophonic sound equipment when most producers do not make this kind of product. Manifestly, progress is stalemated when each segment of the industry waits for the other.

The exhibitor is the producer's customer, and it seems reasonable that the latter would provide stereophonic sound prints if theatre management made known their wishes and, further, a sufficient number of additional theatres would equip for stereophonic sound so as to warrant the added cost of release prints. There are manifestations in Hollywood that the producers are now taking the initiative by currently making more pictures with stereophonic sound than in the last year. Exhibitors have been through a bad period in which there were no clear cut signs to guide them but the low point apparently has been passed and theatre management can again feel and display the enthusiasm which is so necessary in show business.

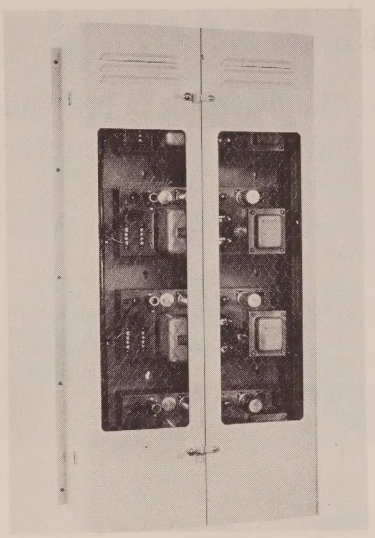
Mag-Optical Prints

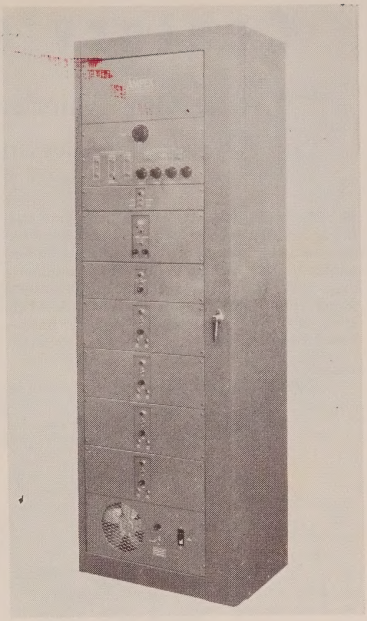
In the past year, the form of release print known as "Mag-optical" has been issued. These prints carry both magnetic stereophonic and optical track sound on CinemaScope film and with a CinemaScope film image. Mag-optical prints, being a combination of stereophonic and single track sound, eliminate the necessity for two kinds of release prints, thereby reducing the cost of manufacture and distribution, making it more feasible, economically, to provide magnetic stereophonic type releases in greater quantity. These prints are useful to the exhibitor in that the photographic sound track provides protection, should the stereophonic equipment become unexpectedly defective and also, since only one kind of release print is needed, copies are more readily available.

PART I: STEREOPHONIC PRINCIPLES

Monaural Sound

All of the reproduced sounds to which the public has been exposed prior to the commercialization of stereophonic sound are known technically as monaural methods or, more descriptively, one-eared methods. This is true of records, radio, television and motion pictures; the latter uses a single sound track commonly called optical sound but more correctly, photographic sound. The effect of one-eared methods of recording and reproducing sound is as though the listener were *transported back to the time of the performance, placed at the position occupied by the microphone and had one ear plugged up.* If the microphone happened to be placed to the right side of the performance, say an orchestra, then the listener would hear in either case predominantly the right side of the performance. The thoughtful reader will recognize that with one-eared recording or reproducing methods, it is impossible to give the same effect to an audience as they would have if they were seated before the actual performance; this analytic conclusion leads us to the concept of stereophonic sound.





THE MAGNASYNC cabinet equipment, above, and the Ampex amplifier equipment, right, for four-track magnetic reproduction of film sound.

Stereophonic Sound

It is the intent of stereophonic sound methods to *recreate the original performance before a new audience at some later time, in true space relationships as though the artists were actually on stage.* In the motion picture case, stereophonic recording is used to reproduce behind the screen all the sounds of the original performance in suitable fashion so that the audience, by two-ear hearing, has the same impression as when *seated in the auditorium* with the original performance. If the reader wishes he may demonstrate for himself the difference between one-eared and two-eared hearing by alternately covering and uncovering one ear while listening to someone talking, particularly within a group of people. The experimenter will notice that with one-eared hearing it is more difficult to understand what is being said, the quality of the sound is different, and the location of the sound is more difficult to perceive.

Recording and Reproducing

To do an exact job of recording and reproducing sounds with stereophonic methods requires a very great number of microphones placed before the original performance, much like an invisible and sound transparent curtain recording the sounds from each one of the microphones individually on separate sound tracks and reproducing them subsequently with a like number of loud-speakers, arranged in a similar curtain before the new audience. For large screen use it has been found that the minimum number of microphones, recording channels, sound tracks, reproducing systems, and loud-speakers is three in number. Three recording and reproducing channels cover the screen action quite adequately and recreate the original sounds realistically at the lowest possible cost. It should be understood that more than three channels, such as used in current road show exhibitions, will do a better job, but the expenses of road show presentation are not yet justified in the smaller theatres.

Summary

We may list the features of stereophonic sound as follows:

(1) Visible position of sound sources on the screen are matched by the direction from which the reproduced sound is heard, rather than all the reproduced sounds coming from one place.

(2) Changes in sound, as actors or sound sources move about or go more or less distant from the camera, are very similar to our experiences in life. In the case of musical recordings, the musicians seem to be placed as they would be in an orchestra.

(3) The acoustic effects of a situation in which the action is taking place are well reproduced and life-like.

(4) The quality, or faithfulness, or the recording and reproduction of the original sound is greatly improved.

To provide stereophonic sound reproduction for the motion picture audience required the use of three sound tracks on the release film. A fourth track has been added to stereophonic sound release prints which is used at appropriate times to enhance the audience participation in the presentation, to increase the illusion of certain scenes, or to create special effects for dramatic purposes. The signals from the three principal tracks on the release film are reproduced by three loud-speakers behind the screen and the signals from the fourth sound track are reproduced by a multiplicity of loud-speakers placed around the auditorium, so arranged

Continued on Page 50

Century's Model J Projector

A Leading American Manufacturer is Introducing Interchangeable 70/35mm Projection and Sound Equipment Having Unique Features

By Larry Davee
Vice-President
Century Projector Corporation

■ The motion picture industry has, for sometime, observed other forms of entertainment gradually become more popular than motion pictures. Part of this depreciated popularity may have been caused by lack of foresight to continue aggressive research and development toward overcoming the physical limitations of the camera, film, and projector systems. The success of such new and complicated motion picture systems as Cinerama, Cinemiracle, Horizontal Vistavision, 3-D, and similar attempts has pointed the way to a renewed vigor in the industry portending greater things to come.

Among the more recent developments which has proven its value is the use of 70mm motion picture film with its larger picture area and its expanded six channel sound reproduction. Obviously, larger films and multiple sound channels require larger, heavier equipment to project the picture satisfactorily with optimum brightness and to reproduce the sound with clarity.

To that end, Century Projector Corporation dedicated its every effort and talent to the development and manufacture of projection and sound reproducing equipment to fulfill the most exacting specifications, with the highest quality of picture and sound possible within the limitations of the art itself.

The result is the new Century Model J Projector. This projector has the familiar physical aspect of its predecessors—the well-known and proven Model C, Model CC, Model H, and Model HH 35mm Projectors. The designs are also based upon the experience gained in the design of all of the successful projection systems enumerated above, plus about three years cooperative development on wide film projectors with 20th Century-Fox Film Corporation.

The new Model J 70/35mm Projector is the only American made equipment available and follows the time proven design of having the projector mechanism, optical sound reproducer, magnetic sound reproducer, and upper and lower magazines in separate units, thereby adding strength, stability, ease of installation, simplified servicing, and the possible expansion of presently operating projection and sound equipment through modernization in progressive steps, if that appears feasible as the wider film programs enlarge their operations.

An important consideration which has been carefully thought out is the possible adaption to other film dimensions and processes. Each part of the Model J has been designed, and conversion units are already available for, film dimensions and processes not as yet ready for theatre presentation. Century has taken a long look forward to analyze possible future requirements for projection equipment. The Model J is the answer to an equipment prepared for almost any forseeable expansion for the present 70mm and 35mm film dimensions, as well as other possible refinements.

The Model J Mechanism

The Model J mechanism is designed to project either 70mm or standard 35mm film. Special attention has been given to make the changeover from one film dimension to the other simple. The whole change can be made within a minute or so (with experience, within seconds). This means that 35mm standard film can be projected and, from the

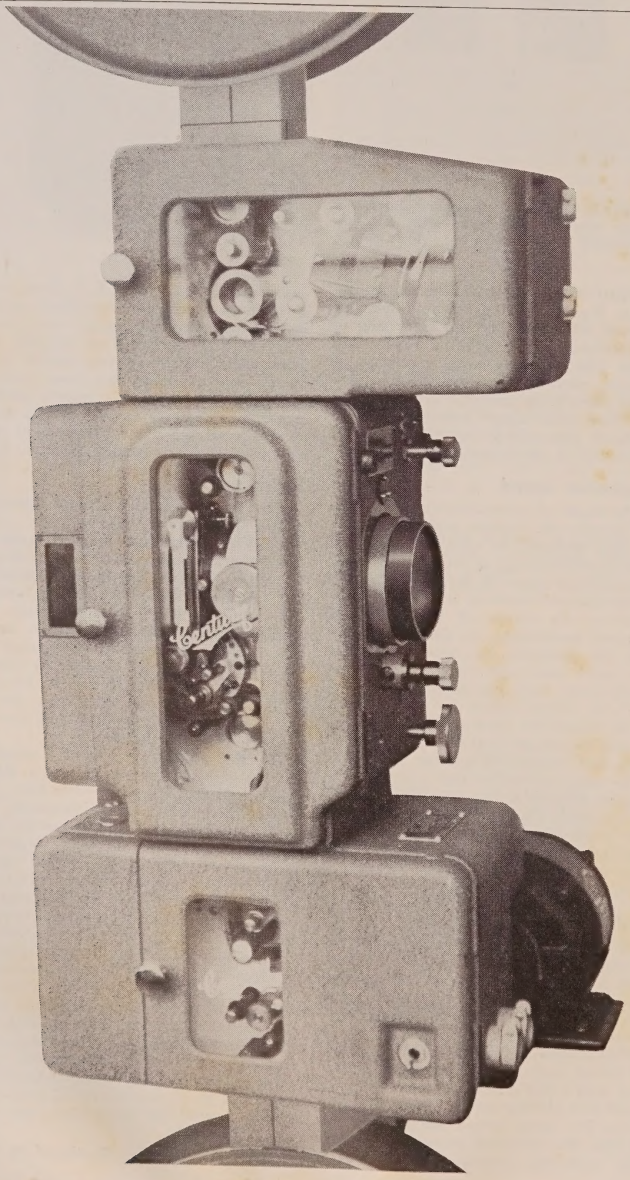
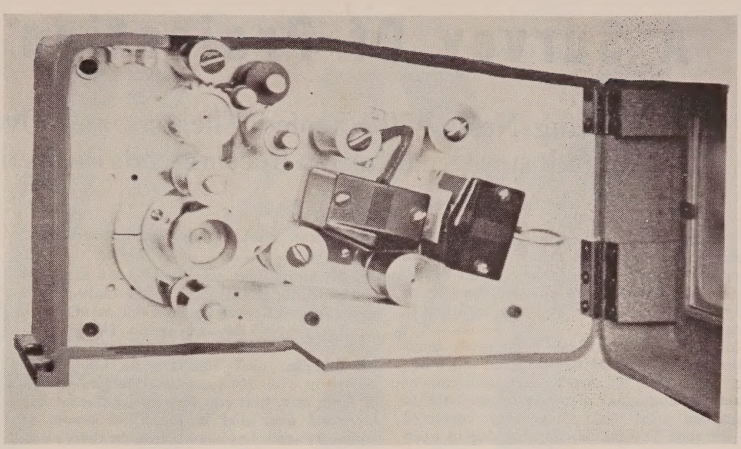


FIGURE ONE: Front view showing a model of the Century 70/35mm projector, including the J1-U-10 upper and J1-W-10 lower 24-inch magazines; R-31 70/35mm magnetic sound reproducer; Model JJ projector mechanism; and Model R-30 optical reproducer. Arc lamps and pedestal are standard.

FIGURE TWO: A front view of the Century Model R-31 70/35mm magnetic sound reproducer, showing the two reproducer heads, hydraulic flutter suppressor, and driven film sprocket.



time the tail end of this film runs out to the time of starting threading 70mm film, only seconds will elapse. It is, therefore, entirely safe and reasonable to run a 70mm feature film with 35mm news and short subjects.

The Intermittent Movement

The intermittent movement, as usual, is the heart of any motion picture projector. The Century 70/35mm intermittent movement has all of the accuracy and stamina of years of experience in the design and manufacture of such units for commercial, as well as specialized, applications.

The standard 70/35mm movement is a geneva starwheel and cam design, but of larger dimensions, larger shafts, larger cam pin, larger starwheel, and larger radii than any known projector for these applications (almost 100 percent heavier). Each part is the result of experimentation to find the right materials, weights, hardness, and finish to give undeviating steadiness to the picture with a reasonably long operating life.

The double intermittent sprocket should receive particular mention because of the exhaustive research and testing it has received. Life tests have been conducted on these sprockets for the past two and half years. They are made of special duraluminum having a hardness at the wearing surfaces harder than the steel of standard sprockets.

The sprockets are easily changed without removing the movement from the mechanism. They can be reversed, also, in the mechanism, and by a unique design of hub contour the concentricity of the rims and the positioning of the teeth are assured. Screen measurements indicate that picture steadiness is equal to, or better, than the best 35mm performance.

No expense has been spared in making this 70/35mm intermittent out-perform any device of its kind. It is designed specifically for use with larger films at normal and increased film speeds.

All other sprockets in this projector are double (70/35mm) and made of hardened steel. The diameter and tooth shape of each sprocket has been designed for the particular job it has to do. Each sprocket is, therefore, expected to last a long time and to contribute to long film life. There has been much discussion with many pros and cons relative to the "correct" sprocket dimensions for optimum results. Century believes, as it has for a number of years, that there is a fine balance of design practice which dictates the exact size and shape of every sprocket for the most economical service at the highest quality performance. Century sprockets are designed under the strict adherence to these principles, and any deviation from these designs could contribute nothing but depreciated results.

Pad Rollers

Each pad roller associated with each sprocket is of the double roller type, mounted and clearly marked so that the changeover from 70mm to 35mm operation is accomplished by rotating the assembly a half turn. There are three such pad rollers in the complete projector and the change can be made in less than one second per roller. A quick glance (after threading the projector) clearly indicates whether or not each roller is in proper position to run the film selected.

The Film Trap

The film trap shoes are hard polished chromium permanently held in an exact contour insuring the proper curvature of the film. The complete film trap is water cooled down to the mounting of the shoes, which are insulated from the water cell to prevent the condensation of water on any metal part actually touching the film and yet providing for the absorption of all radiant heat transmitted from the arc lamp. To the most minute serration of the film trap, the design prevents unwanted light reflections from the water cell chamber and yet accepts all unwanted radiant heat without interference to the useful light at the aperture.

The same careful physical design also applies to either the 70mm or the 35mm film trap. Each film trap with its properly curved shoes slides out of and into the mounting on large accurately positioned gibs and is firmly and accurately held in operating position. An interesting observation of the film trap (and film gate also) discloses that they may be changed easily to operate with almost any film dimension.

A word regarding water cooled film traps is not amiss in this discussion. There are two kinds of water cooling in prevalent use. These should be classified as water cooled heat shields and water cooled film traps. The object of water cooled heat shields, used on most water cooled projectors, is to absorb most of the stray heat going into the projector. These shields have nothing whatever to do with the heat which destroys the motion picture film nor the operating temperature of the aperture plate.

The Century 70/35mm film traps are designed to take all possible damaging heat away from the film, allowing only that heat which is inseparable from the light to impinge on the projected picture area. Century believes that, within the limits of available air blowers or economical air velocities obtainable for motion picture projectors, that there can not be any advantage in air which may circulate past the film as it is being projected. Instead, it is believed that any air which may circulate past the aperture merely serves the purpose to cool the aperture plate and that an efficient water cooled aperture plate, as incorporated in the standard line of Century water cooled projectors, and this new 70/35mm projector, reduce the damaging heat on the film to an absolute minimum without direct mechanical contact of cooled

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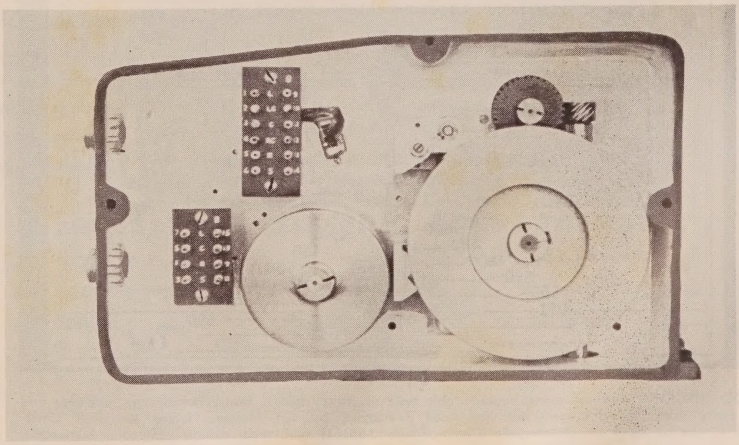


FIGURE THREE: The rear view of the Century Model R-31 70/35mm magnetic sound reproducer showing the vertical drive shaft and gear for the film sprocket, two flywheels and arm supports for the hydraulic flutter suppressor, the four-channel and six-channel terminal blocks with two cable connectors for the separate sound systems.

A Survey Of Projection Practices

Visiting Nearly 500 Roofed Theatres and Over 200 Drive-Ins, An Industry Organization Recommends Projection Improvements

By Motion Picture Research Council, Inc.

• The information contained herein has been assembled by the MPRC Theatre Liaison Staff as its Second Report, issued a few months ago, on the Theatre Liaison Program. The first report was issued in December, 1957, and, in the interim, over 700 theatres have been visited in over 100 localities. The percentage of large city, first run theatres contacted has increased over that in the First Report as emphasis again has been placed on these situations because of their revenue importance. Figures represent conditions "as found" at the time that the theatre was surveyed.

■ THE THEATRE LIAISON ACTIVITY has gathered facts which make this report important to everyone concerned with the overall health of the industry. However, this summary treats only of the important first-run theatres in large cities.

In 74% of these theatres optimum focus could not be obtained; 63 percent of this number were due to mechanical misalignment (such misalignment also may contribute to shortened print life). These were corrected on the spot. The remainder were due to worn parts or to sub-par optical components. Such conditions were reported to executive management. Management's interest in the reports indicated that these recommendations would not be ignored.

Precision gauges and lens performance test film were used to determine and to correct these conditions. These tools were developed by the Research Council engineering staff and will be made available to theatre technicians at lowest possible cost. It may be expected that conditions causing less than optimum picture sharpness will be corrected in other theatres throughout the world as these tools are put to use.

Screen Brightness

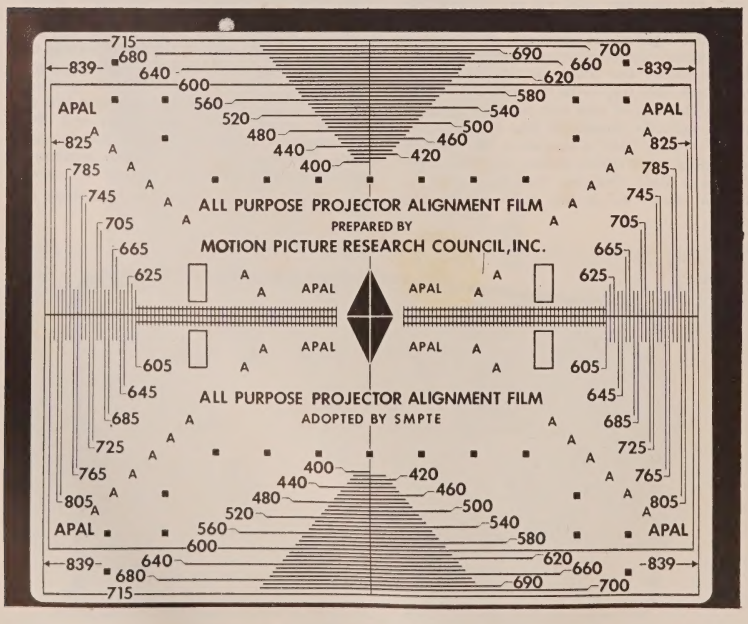
In 69 percent of the theatres visited, recommendations were made to correct undesirable screen brightness levels and undesirable brightness distribution to the various seating areas. The harm this condition is doing to proper presentation of product cannot be exaggerated. These conditions would not exist if the proper type screen were properly installed, and adequate arc lamp equipment used.

In all these cases, facts about screen characteristics and proper installation were discussed with technical personnel and with owners and executive management. Articles and charts, emphasizing the importance of these considerations have been widely circulated by the Council theatre staff.

Wrong Size Lenses

In 43 percent of these theatres, recommendations were made to procure lenses of a different focal length than that being used in order to show either anamorphic or regular product to better advantage. In most cases where wrong size lenses were used, intended picture information was being eliminated (sometimes drastically) by use of undersize apertures which compensated the error in lens focal length for a given picture size.

Owners and executive management were very interested to learn of these conditions. As a means of focusing attention on this problem, a scaled chart was incorporated in an all purpose projector test film developed by the Council. This chart indicates at a glance precisely how much of the intended picture information is being lost in projection. The widespread use of this film will be encouraged in every way possible.



FOR CHECKING aperture measurements, side weave, travel ghost, focus, breathing, buckling, and squeeze ratio, this alignment film has been developed by the Motion Picture Research Council. It can be used for anamorphic (CinemaScope 2.35: 1) and wide screen projection inspection.

Print Life

One of the important causes of shortened print life is attributed to the use of relatively small diameter sprockets. The use of sprockets of this type is greatly affecting print life. The Council theatre staff has urged replacement of undersize sprockets wherever they were found.

Another important cause of shortened print life was found to be improper alignment of the projector film path. Gauges to facilitate this alignment will be made available to theatre technicians. They will be described in articles, and technical personnel in large theatre circuits will be advised of their availability.

Sound

Many of the more enterprising exhibitors complained that too few stereophonic sound prints were being made available. Some expressed the opinion that the increasing public interest in stereo sound used in home sound systems, radio, and some TV programs, should be considered seriously by both producers and exhibitors.

Conditions of Prints

Many complaints have been made to the Council theatre staff by theatre management and projectionists about the condition of prints delivered to the theatre. These have been especially common among subsequent run theatres and drive-ins. Most common complaints are:

1. Scratched prints
2. Unrepaired damaged splices
3. Damaged leaders, leaders of improper length (footage missing) leaders not spliced to reel, and on some occasions, missing leaders
4. Damaged, bent reels
5. Damaged containers (especially the cardboard type recently put in use)

These widespread complaints point to improper handling and inadequate inspection in the exchanges, and necessitate extra booth time in the theatre for inspection and repair.

Drive-In Screen Brightness

Screen brightness is the principal concern of this type of exhibition. Fifty-seven percent

Continued on Page 56

WHY Blown Arcs Are Being Installed by Large Theatres

They are

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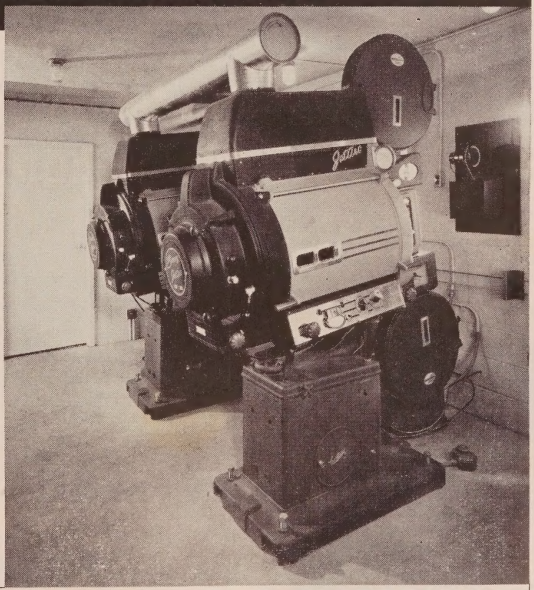

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Projection And Sound In Australia

Westrex Australia Has Installed Numerous Interesting Devices In Some of the Largest Outdoor Theatres in the Commonwealth

■ AUSTRALIA, next to the United States and Canada, has more drive-in theatres per head population than any other country in the world. Over 50 units are in operation to date, and a number are under construction. The majority of the drive-ins are operated by circuits, but independents have good representation. Generally speaking, the service offered by Australian drive-ins is of the highest standard. Most are well constructed and represent a high capital outlay.

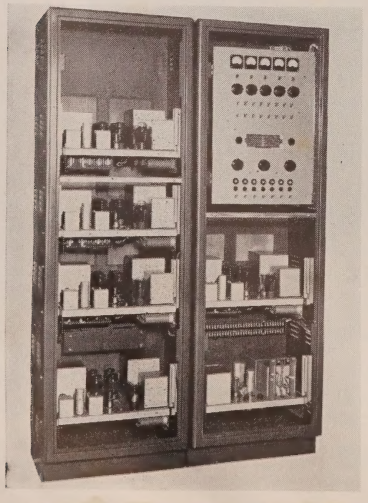
The largest drive-in, the Metro Twin at Clayton, Victoria, accommodates 1,500 cars. Next in line is the 1,320-car sister Metro situated at Chullora, New South Wales.

Setting the standard for drive-in sound and projection in Australia, Westrex Australia has installed equipment in many of the outdoor theatres, among them all the Metro units in four states. Screen sizes are standard for each Metro, 115 feet by 50 feet with projection distance of approximately 440 feet.

The twin units are actually two separate drive-ins on the one lot. A complete duplication of projection booth equipment, screen, speakers, etc., serves the second field. In this way, programs can be staggered, with four sessions conducted each evening for a total of over 3,000 cars.

The Australian made Westrex AE326 In-Car Speaker Units are used in each Westrex equipped drive-in. The number of Westrex 75 watt unit amplifiers in appropriate cabinets used is dependent on the number of cars to service. Projection, arc lamp, and arc supply equipment is selected to suit the various screen sizes and other factors.

BELOW, a 350 watt unit housed in the Westrex AE299 and AE322 cabinet with power level indicator meters, ramp emergency switching, radio tuner, etc. Right, top and bottom, open view of the AE 326 speaker and the same mounted, on the Westrex two-way drive-in junction box.



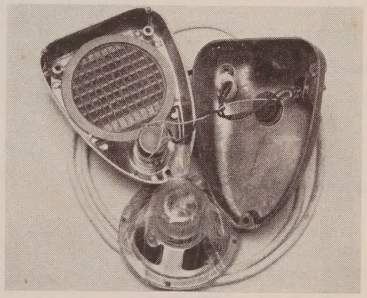
Sound System

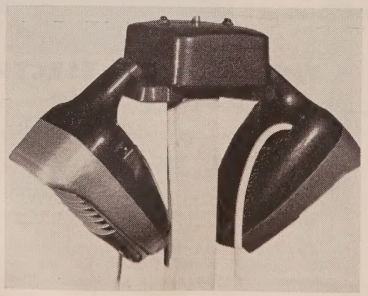
Westrex AE326 photo pre-amplifiers are used in each case and mounted in their associated AE261 cabinets, one for each machine to allow individual volume control. The AE236 Cathode follower output is fed to the main power amplifiers via the film, non-sync. announce switching unit.

Each power amplifier delivers 75 watts of clean audio power to the ramp switching unit incorporated in the main control cabinet. Westrex allows .5 watts per field speaker when calculating power output requirements. One floor mounted cabinet, the AE324 or AE322, incorporates the entire switching and monitoring system. Each power amplifier output is fed into this panel and a power output meter meters each amplifier. In the event of failure of any one power amplifier, emergency switching is provided to allow the then inoperative ramps to be switched on to any one of the remaining amplifiers without apparent drop in sound level. Up to 16 ramps may be controlled and switched in this way.

A continuous audio sound source is provided also in the main cabinet. This available audio signal is used when testing field speaker units during non-screening testing. As the number of speakers vary, Westrex incorporates impedance balance controls in the main speaker distribution panel to allow any given amplifier to be matched to any given number of speakers.

Three speed non-sync. units have been supplied in each case, plus the added convenience of superimposing facilities, allowing microphone announcements to be superimposed.





Field Speakers

The housing of each Westrex drive-in speaker unit is constructed of shockproof die-cast aluminium in two pieces. They are painted in two-tone baked hammertone finish. The actual speaker unit is enclosed in an alkathene envelope to combat moisture and dust penetration, and it is held in place between the two cast housing units in a pre-aligned position under pressure, with a rubber cushion when two castings are bolted together. This affords easy replacement in the event of failure. The three bolts holding the housing pieces are cadmium plated to eliminate possible chemical action and electrolysis from taking place. The heads are recessed to discourage tampering by patrons. A recessed volume control knob is mounted at the front housing to prevent possible damage. The concession call switch is also mounted as above.

In Australia, much trouble has been experienced with noisy volume controls, but Westrex developed one means of combating this problem. Each volume control is treated before installation and has proved to be entirely noise free.

The Westrex AE327 Speaker Junction Box is mounted on top of the two inch diameter pipe standard. This junction box accommodates the transformer for two speakers, together with concession light equipment and bezels. A single holding bolt is used to hold the cover on the junction box. When this cover is removed, all wiring is accessible. Downpost lighting is efficient and hooded, so that light does not escape to indicate the concession call bezel. Invariably, several "extra" speakers are provided in the drive-in. These range from the concealed diffusion types used in the ceiling of the snack bar to specially adapted modified in-car units for patio and playground areas.

Field Wiring

Each Westrex equipped drive-in is planned thoroughly on the drawing board before the installation is begun. Wiring of the speaker and concession facilities warrants special attention. In Australia, Westrex uses 2-2 pair cables to each ramp and subsequent speaker posts. One provides sound, the other lighting.

Arc Lamp and Supply Equipment

The smaller drive-ins with CinemaScope screens measuring up to 40 feet wide, use the standard Westrex 14 inch Arc Lamp at an arc current of approximately 80 amps, supplied by Westrex 752 type selenium rectifiers. The average 500-car units, generally with a screen 80 feet wide, invariably use the BTH Supra Arc Lamp, supplied with up to 120 amps from either selenium rectifiers or motor generators.

The giant screens, measuring up to 120 feet wide, demand the finest in lighting and projection equipment. Ashcraft Super Cinex Arc Lamps used in conjunction with Westrex multi phase 180 amp per unit rectifiers operating at 165 amps, together with Century CC4W Water Cooled Special Curved Gate Drive-In Projectors, attain a light speed of F1.6. The screen results compare very favourably with fine indoor theatres.

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The NATIONAL "SEVENTY" has all the must features ...don't settle for less!

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NATIONAL THEATRE SUPPLY — A GENERAL PRECISION COMPANY

Cinemeccanica Victoria X Equipment

A Leading European Manufacturer is Marketing 70/35mm All Purpose Projection and Sound Units

By George Hornstein
President
Cinematograph International, Inc.

Introduction

Cinemeccanica of Milan, Italy is, and has long been, recognized as one of the leading manufacturers of motion picture equipment in Europe, as well as one of the oldest concerns in the field, having been formed before the advent of sound pictures. When the first talking picture was introduced in this country, Cinemeccanica promptly undertook the manufacture of sound equipment covering the complete line of electronics and all associated components.

The products of Cinemeccanica include 35mm professional and portable motion picture equipment, as well as all types of lighting equipment from Mazda lamphouses to high-intensity reflector arc lamphouses. The firm also markets sound screens to fit all requirements and all accessory items used by theatres throughout the world.

The firm has world wide sales and service coverage through progressive distributors. With the recent appointment of Cinematograph International to this roster, it can now render representation and service in this country.

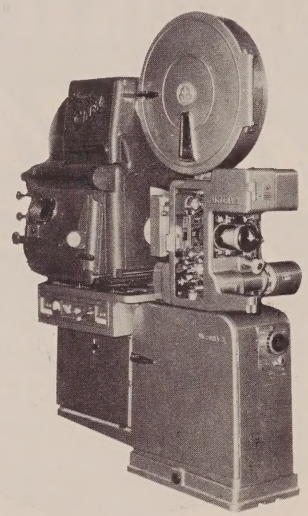
The Victoria X

Cinemeccanica's new combination Victoria X 70/35mm projector has been time tested in Europe in many installations. The unit required many years of research, engineering, common sense "know-how," and endurance trials to achieve acceptable end results. The basic engineering principles in its design represent the conclusions drawn from an extensive study by leading European projector design engineers to meet present day standards of the various recognized technical societies throughout the world.

The Victoria X projector head is designed with both magnetic and optical sound integrally built-in. The magnetic sound head contains a ten track magnetic pick up for reproducing either 70mm six-track or 35mm four-track recording. A unique feature permits a very rapid change from 70mm to 35mm in one minute, without removal of sprocket pad rollers.

All feed sprockets are large in diameter giving a large wrap to the film with ample sprocket hole engagement. Oil pressure is fed by a pump located in the base of the projector head, which pressure feeds oil to every moving part and eliminates hazards of spash system.

Special aluminum alloy intermittent sprockets are favorable for rapid acceleration and deceleration of same. The aperture is cooled by both water and air, thus preventing any possible chance of the film buckling through the heat.



THE VICTORIA X 70/35mm All-Purpose Projector, above, is seen below with operating side exposed and non-operating side showing projector drive.

The film gate and runner plate is of very rugged construction, specially designed with a gradual bend in the film track before the aperture, in order to maintain a perfectly flat film surface and a rock steady picture.

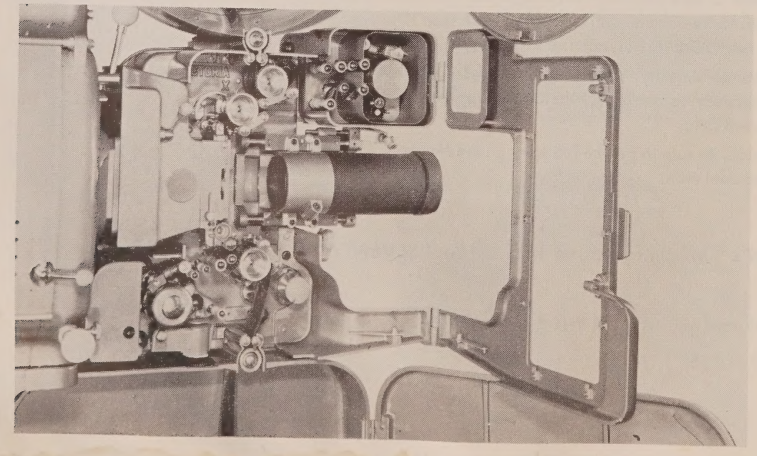
The Victoria X projector head is driven by a single rugged three phase motor through a specially designed clutch which permits a speed change from 30 frames to 24 frames whenever required. The take up is driven by a separate three-phase motor situated in the projector base, while a third motor drives a filtered air blower which circulates air around and past the aperture. All gears and shafts are designed with parallel axis to run smoothly and quietly.

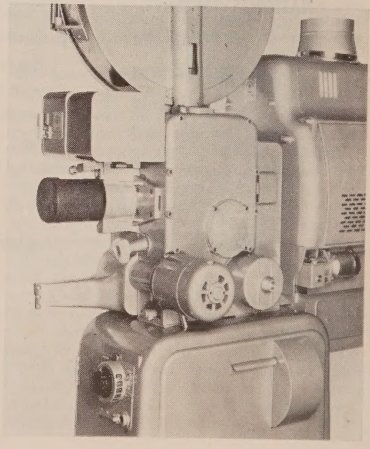
The projector is mounted on a specially designed base which permits a projection angle tilt of from five degrees up to 20 degrees down.

The optical sound system incorporates an eddy current stabilizing flywheel with a dashpot damper. The flutter content does not exceed one tenth of one percent, is considerably better than established standards. The optical preamplifier is mounted in the front of the projector base, which provides a very short cable run from the photo cell. A large one piece glass door encloses the entire projector mechanism, giving the unit a streamlined and attractive appearance.

The Victoria X, with the complete 10 track magnetic and optical sound system and the Cinemeccanica Zenith #450 high intensity 18 inch reflector arc lamp, also offers flexibility of the projector which will permit its use with standard sound systems and arc lamps of all makes.

This is the smoothest and most quietly running 70mm projector, providing the finest projection and sound, witnessed by this writer, who departed from Milan recently convinced of Cinemeccanica's success in this field.





SNAPLITE PROJECTION LENSES

SUPER SNAPLITE f/1.7

f/1.7 . . . in focal lengths from 2½" through 4".

6 ELEMENTS . . . high magnification, wire sharp projection, superb definition, high light uniformity.

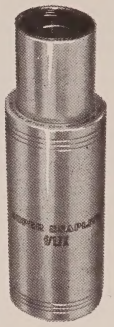
COATED OPTICS . . . throughout. For high contrast and less light loss.

ONE-PIECE MOUNT . . . aluminum, sealed against dirt, dust, oil or moisture.

ANODIZED FINISH . . . a part of the aluminum barrel itself, never wears off. No rusting, chipping or peeling.

Catalog No. BX 290
2½" through 4" E. F.

SUPER SNAPLITE f/1.7X



An extended barrel lens for use on projectors where the lens mount interferes with the light path of standard short focal length lenses.

f/1.7X . . . in focal lengths from 2" through 3".

MULTIPLE ELEMENTS . . . high magnification, wire sharp projection, superb definition, high light uniformity.

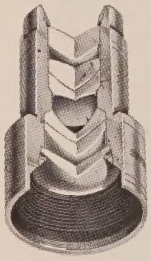
COATED OPTICS . . . throughout for high contrast and less light loss.

ONE-PIECE MOUNT . . . aluminum, sealed against dirt, dust, oil or moisture.

ANODIZED FINISH . . . a part of the aluminum barrel itself, never wears off. No rusting, chipping or peeling.

Catalog No. BX 294
2" through 3"

SUPER SNAPLITE f/1.9



ANASTIGMAT . . . six elements for wide-angle, high magnification, wire-sharp projection.

f/1.9 . . . magnificent screen brilliance.

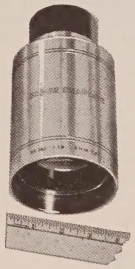
COATED OPTICS . . . give greater light, sparkling contrast.

SEALED LENSES . . . keep out light-robbing dust and oil.

ANODIZED FINISH . . . cannot flake or peel off.

Catalog No. BX 241
2" through
4¾"—f/1.9
5"—f/2.0

4 INCH DIAMETER SUPER SNAPLITE f/1.9



f/1.9 . . . in focal lengths from five up to and including seven inches.

COATED OPTICS . . . for higher contrast and even brighter pictures.

SIX ELEMENTS . . . for the sharpest pictures ever projected with long focal length lenses.

ONE-PIECE MOUNT . . . no threaded joint to admit moisture, dust or oil.

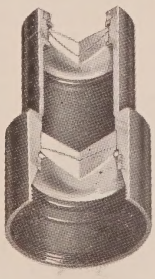
SEALED CONSTRUCTION . . . under normal use, does not need to be taken apart for cleaning.

ANODIZED FINISH . . . no flaking, chipping or peeling to impair performance.

Catalog No. BX 265
5" through 7"—f/1.9
over 7" slightly slower

NOTE: Four inch diameter Super Snaplite projection lenses are available on special order only. Make and model of projector MUST be specified on each order.

SNAPLITE SERIES II f/2.0



f/2.0 . . . BLACK ANODIZED FINISH
COATED OPTICS
SEALED CONSTRUCTION

Catalog No. BX 163
3½" through 5"—f/2.0
5¼" through 7"—
slightly slower
Above 7"—on special
order.

K C ®

KOLLMORGEN Optical CORPORATION

Northampton, Massachusetts

STEREOPHONIC SOUND

Continued from Page 41

that the audience is surrounded, or encompassed with sound.

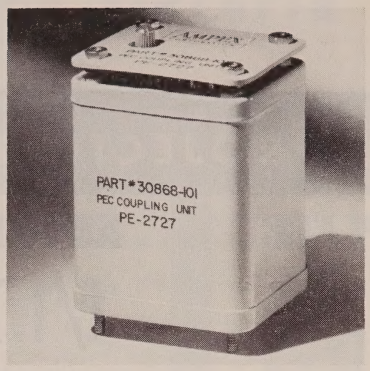
Production Problems

The technical problems of bringing four-track stereophonic sound to the theatre on a single piece of 35mm were many. The solution was found in the use of magnetic recording methods and a change in the film perforation location and dimension. The use f magnetic tracks in theatres has been attacked in some trade magazines implying serious distortion characteristics and frightful handling problems; most of these have been half truths written by well intentioned but misinformed individuals. The published aspersions cannot be reconciled with the fact that magnetic recordings on tapes and stripes are used for all original recordings in the record industry, most program material used on radio, the best professional recordings available for home reproduction, machine tool control in industrial plants, the storage of important information in computers and business offices, all original recordings and re-recordings in major motion picture studios, dictating machines, and television pictures.

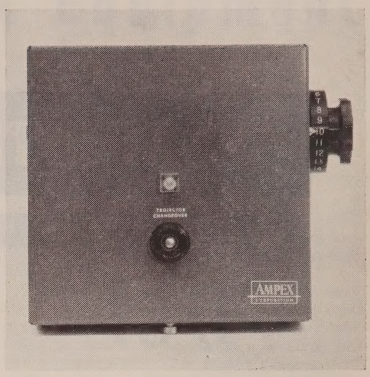
Exhibition's Failure

Motion picture exhibition is the only entertainment medium, other than live performances, whieh does not use magnetically recorded and reproduced sound to its fullest extent.

What has been described in this Part is legitimate stereophonic sound recording, properly executed for reproduction in the theatre, and should not be confused with what is known as "Perspecta Sound" which is an artificial, or synthetic, method of stereophonic sound. Stereophonic sound is, of course, another thing entirely.



THIS is the Ampex coupling unit to replace optical amplifiers, reproducing optical sound track through a magnetic sound system.



THE AMPEX wall mounted projector changeover and fader cabinet, above, is another part of the stereophonic sound system's important elements.

PART II: STEREOPHONIC EQUIPMENT

In the following it is assumed that the theatre is now equipped with the auxiliary anamorphoric lens systems, aperture plates, and wide screen.

Aperture Plates

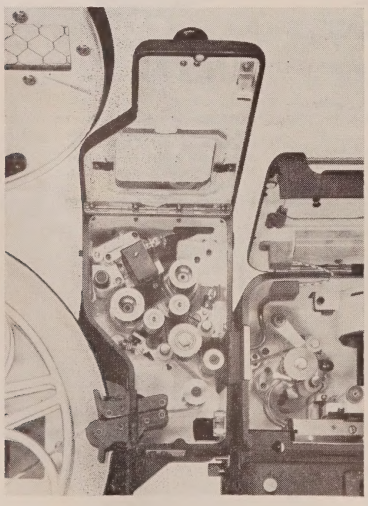
Because of a fairly recent theatre survey, it is appropriate to suggest that the size of the aperture plates be reconsidered. It was found that many plates were grossly undersized to compensate for incorrect lens focal lengths, the combination resulting in the loss of considerable picture on both sides and top and bottom. Another poor practice found in the field is that of using too small an aspect ratio in the aperture plate and on the screen. By aspect ratio is meant the ratio of the width of the picture to the height which, in the case of the CinemaScope release, is 2.35 to 1. In other words, the picture is 2.35 times as wide as the height. There are many instances where, for expediency or lowest cost, the picture aspect ratio is as low as 2 to 1 and it is quite clear that much picture information is lost which the producer intended should be seen.

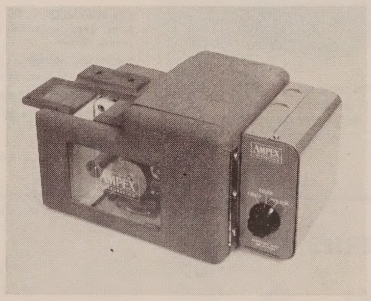
Whenever possible, the screen height for CinemaScope should remain the same as for the so-called flat picture and the width of the screen increased proportionately to show as much of the CinemaScope width as can be done.

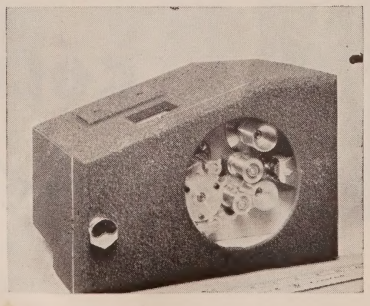
Screen Frame

To obtain the maximum presentation value from wide screen picture, the image should occupy as nearly as possible the entire end of the auditorium but, when this is not practical, the use of side drapings can make it appear as though the screen were the true auditorium limits. Many exhibitors want to hold to the traditional proscenium arch; they should realize that while the proscenium is suitable for stage plays and the like, it is not truly functional for the presentation of motion pictures. Basically, the image on a screen is on one plane in which distance or perspective is implied by various devices; in some regards, as an art form, it may be analytically compared with still photographs or paintings which are mounted or framed in some suitable fashion so as to set them apart from the surroundings, but not to detract from the picture being displayed. The artist knows that he can use a frame of such visual dominance that the frame becomes the center of interest rather than the picture. Analogously, the proscenium arch is a frame for the presentation but the usual shape and decoration is so eye catching as to distract the viewer from the picture being shown. The exhibitor would do better to extend the screen beyond the proscenium arch and drape it in such a fashion that it becomes a part of the theatre enclosure even though they may lose a few rows of the less desirable front seating area. Theatres modernized in this fashion present a wholly new and pleasant face to the customer. To obtain the best possible side-to-side focus and light distribution, a wide screen should be slightly curved. A convenient rule specifies the screen curve by using the projection throw as the radius of a circle of which the screen is one segment. If necessary, for structural reasons, the screen may be installed slightly flatter than the rule suggests, but great care should be exercised in this respect.

With a truly wide screen the advantages







ABOVE, left, is the Simplex XL stereophonic sound mechanism; above, right, Ampex magnetic reproducer (Penthouse) for use on projectors for four-track CinemaScope stereophonic sound; right, the Motiograph AAA penthouse reproducer.

From this 21-Inch Cold Type Mirror Is Reflected the World's Brightest Screen Light!

Utilizing a totally new and different technique in producing light, the new—

National Ventarc

—projects 65,000 lumens, making it by far

THE MOST POWERFUL PROJECTION LAMP!

It delivers 70% more light than most 18-inch reflector lamps, 51% more with 35 mm film and an f1.7 lens. The reflector, largest ever used, is designed for all film widths.

If you have a big screen you have need of blown arc lamps.

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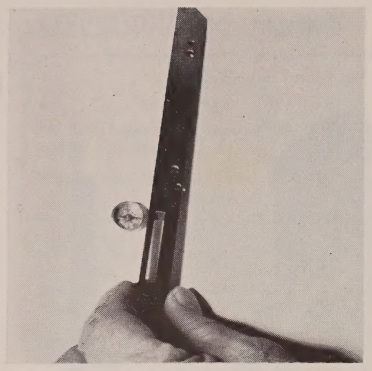


FIGURE A: Magnetization testing with a compass.

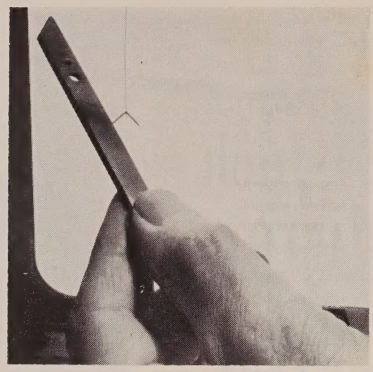


FIGURE B: Magnetization test with suspended pin.

and values of stereophonic sound become much more apparent, so that the story presentation is considerably enhanced.

Test Films

Test films are available from the Society of Motion Picture and Television Engineers and the Motion Picture Research Council, which are helpful in adjusting the screen size and in calculating correct screen light.

Sprockets

Stereophonic sound and Mag-optical release prints are on film with perforations different from what has been used in the past. For either kind of release print, the projector must be equipped with certain new sprockets, rollers, and picture gate apparatus available from the various manufacturers. Some theatres have had their old sprockets machined or reworked by local shops so that they would fit the CinemaScope perforations and others have obtained modified sprockets from a variety of sources. Although these reworked sprockets will pull the film and apparently operate satisfactorily, they do damage film more than is necessary.

The best sprockets are those which have been designed specifically for CinemaScope film in which the diameter of the wheel has been chosen larger than previously, which is found to increase the life of prints by reducing perforation damage. Since most of the sprockets in projection machines have been used for a good portion of their useful life, it is best to replace with new, properly designed items.

For those who are interested, the base diameter of the better sprockets is 0.950 to 0.953 inches whereas the older type sprockets did not exceed a diameter of 0.945 inches, and there are many which are smaller. New idlers and rollers are required because the picture image is closer to the perforations on CinemaScope type release prints and the old style parts damage the edges of the image.

Magnetic Advantages

As we have learned, legitimate stereophonic sound reproduction requires a multiplicity of sound tracks; in this case, three or four. To obtain this many tracks on a standard release film of 35mm width, advantage was taken of the benefits of magnetic sound which are: (1) higher quality of reproduction, particularly noticeable in the high frequencies; (2) less background noise during the quiet passages; (3) simplicity of equipment in that the magnetic pick-up head replaces the exciter lamps, optical barrels, photo cells, and coupling devices, all of which helps toward reliability and reduced maintenance in a more complex system.

Sound Reproducer

The use of magnetic sound tracks does require a new sound reproducer. The reproducer is a simple device which is placed on the projector between the upper magazine and the picture head. This reproducer requires no drive mechanism since the film is pulled through from the upper magazine by the projector sprockets.

With magnetic sound, recordings are printed on release film so that the sound corresponding to the picture in the gate is located at the point of magnetic pick-up in the new sound head. The film distance between the picture and the corresponding sound is 28 frames; the latter being displaced towards the tail of the reel rather than the head, as with optical sound. Each manufacturer supplies spacers or other devices such as movable rollers, by which the mechanical distance may be adjusted to 28 frames or more.

Sound Head Spacing

Although it is the function of the installation engineer to space correctly this sound head, it is appropriate at this point to mention that adjustment can be made for a long throw house. For example, if the picture and sound heads were displaced exactly 28 frames the sound would be in synchronism with the picture at the screen and, if it is desired to have the sound in synchronism somewhere back in the theatre at the most used seating location, then it is necessary to *increase* the distance between the sound pick-up point and the picture aperture. Each additional frame of spacing added to the 28 frame normal value moves the point of synchronization 46 feet further into the auditorium. Suppose that the best point for synchronization between the picture and the sound in a particular theatre was 100 feet from the screen, then the film should be threaded in the projector so that the distance between the sound take-off point and the projector aperture was 30 frames. In such a case, the installation should be made with a 30 frame displacement so that the projectionist always threads the print correctly.

All magnetic sound heads are arranged so that non-magnetic prints need not be threaded through the magnetic mechanism. It is not possible with all photographic sound heads, but whenever it can be done, magnetic prints should be threaded around the optical parts. Illustrations on Page 50 show some of the kinds of sound heads available from different manufacturers.

Amplifiers

It is quite apparent that now having the means to pull the film and get the sound signals from the sound tracks, we must have the means to amplify these signals and reproduce them in the auditorium. With a multiple track system, we require separate amplifiers to amplify the signals from each one of the tracks. There are a variety of ways in which this has been done.

One of the most common methods provides a group of four amplifiers which are alternately switched by the changeover mechanism from one projector sound head to the other. These are known as pre-amplifiers at the output of which is a fader used to adjust the loudness in the auditorium from all tracks simultaneously, and sometimes a booster amplifier.

Next in the amplifying system are power-amplifiers which supply enough energy to drive three loud-speakers placed behind the screen. An arrangement is usually made by means of which the fourth or special effects track (properly known as surround track) is amplified through the optical sound system already installed and whose output is connected, by a switch, to the surround loud-speakers in the auditorium—those speakers on the sides and rear wall of the auditorium used for special effects and enhancement of the sound coming from the screen. The use of a single set of pre-amplifiers for both machines suffers from one fault in that magnetic reproducing heads are seldom exactly balanced, so that it is almost impossible to adjust the amplifiers to reproduce equally well from both machines. The regular optical sound system is used conventionally for single track optical release prints.

The system just described is the lowest in cost; it will require more adjustment and maintenance as it is used. For these reasons, and to obtain consistently good results with the least amount of time for adjustment during service calls, it is strongly recommended that theatres install a system using a separate set of pre-amplifiers for each projection machine. With such an arrangement, the service engineer always can obtain a loudness and quality balance between the sound tracks with a minimum of fuss and effort.

The reader will have noticed that considerable emphasis was placed on the item of balance between the sound tracks. The producer exercises considerable control during the recording and re-recording of sound in the making of release prints to maintain a uniform performance from all sound tracks and unless the last link in the chain, the theatre equipment, is well adjusted as to loudness and quality, the realistic values of stereophonic sound are considerably degraded.

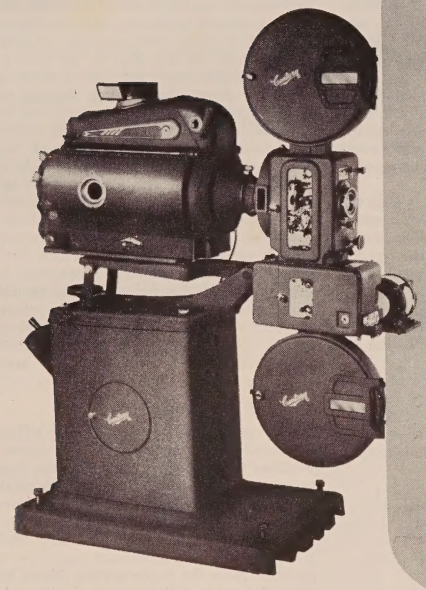
Optical Equipment

In a great many cases, the optical equipment in use is of old vintage, quite obsolete and probably needing considerable and continual attention and repair. In this connection, the exhibitor has two choices: he may buy a system which includes four completely new amplifier channels, which will reproduce the stereophonic sound properly, or, he may take advantage of a recent development in which one manufacturer has provided a small item which completely replaces the optical system amplifiers, if a four-channel magnetic system is purchased. The device in the projector modifies the electrical signals from the photographic sound reproducer so that they look like signals from a magnetic head reproducer and it is, therefore, perfectly feasible to reproduce the op-

Century PROJECTION AND SOUND SYSTEMS

TRY THE *NEW* CENTURY PROJECTOR

. . . you will be ahead with CENTURY for years to come!



The NEW CENTURY projectors have more *desirable features* than any other equipment. You will find no "gadget improvements" on CENTURY equipment — everything is scientifically arrived at — to give you *full dimensional* reproduction of picture and sound, with trouble-free operation.

HIGH EFFICIENCY MECHANISMS. CENTURY projectors require almost no maintenance. They contain fewer parts (10 gears where others require up to 23) in simple arrangement so that stress and wear are at a minimum. The ingenious design of the main drive shaft eliminates the pinion and stud unit of the soundhead coupling and provides a more positive trouble-free drive. Fewer gears and shafts mean less trouble, lower maintenance, less vibration, sharper pictures . . . finer projection.

CLEAN, TROUBLE-FREE OPERATION. CENTURY has reduced lubrication headaches. There are no oil sprays or oil baths to mess up film and projection room. Oil-less bearings and glass-hard steel gears rule out bindups.

MAXIMUM LIGHT PROJECTION. The mechanism is designed for f/1.5 optical system and 4" diameter lenses and will accommodate the latest high-intensity arc lamps.

WATER-COOLED PROJECTOR APERTURE. Another CENTURY-introduced design, now widely used. CENTURY'S non-condensing, slide-in, water-cooled aperture is a model of simplicity to use but it will pay big dividends in improved projection.

CURVED FILM TRAPS & GATES. CENTURY curved gates are patterned after the well known CENTURY film trap and gate. The new curved film trap features solid fixed shoes. This sturdy precision design, provides positive positioning of the film—therefore positive focus. The aperture plate was designed as an integral part of the film trap which serves to maintain the correct focus.

Century ENGINEERED SOUND SYSTEMS - STANDARD AND STEREOPHONIC

. . . designed to meet your needs—present and future. They give you the best that modern science can offer.

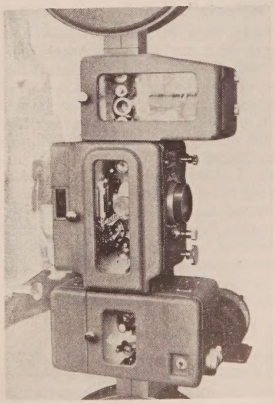
UNIT PRINCIPLE DESIGN. Each CENTURY installation can be selected to meet the physical or financial requirements of any theatre or drive-in.

AWARD-WINNING SOUND QUALITY. CENTURY sound reproducers feature the famous *hydro-flutter suppressor*, exclusively—winner of an Academy Award because it is a "fundamental improvement in film drive" and "results in improved quality in the theatre". (Citation of the Academy of Motion Picture Arts and Sciences). CENTURY sound has unusually high fidelity due to the low flutter obtainable with CENTURY sound reproducers.

SIMPLIFIED OPTICAL SYSTEM. CENTURY sound reproducers employ a high-efficiency straight-through optical system. No mirrors or prisms to fog or tarnish. Amplification requirements and noise interference are reduced.

MECHANICAL ADVANTAGES. Quick threading; oil-less bearings; interchangeable unit construction, simplified service; standardized design for use with any standard make of projector or pedestal.

CENTURY STEREOPHONIC SOUND—another brilliant new design achievement by CENTURY. The whole system except for penthouse reproducers and stage speakers is contained within one medium sized permanently wired enclosure. It is simple to install, operate and service. This system possesses wide flexibility for any magnetic sound presentation and contains ample facilities for conversion to future needs. Single or multiple-track reproduction.



CENTURY'S new 35-70mm projector, instantly convertible to either film width

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Century **CENTURY PROJECTOR CORPORATION**
NEW YORK, N. Y.

tical sound tracks through the magnetic system. A scheme such as described may be attractive to many exhibitors because they can dispose of obsolete optical sound equipment, obtain all new amplifier apparatus, and be required to provide maintenance and service for only one new system rather than one old and one new.

It must be made clear that the amplifiers and loud-speakers which are used should all be of the same kind and model. It is impossible to mix loud-speakers or amplifiers of different manufacture or type and obtain satisfactory results.

Loud Speakers

The loud speakers should be placed behind the screen with one at the screen center and the other two one-sixth of the screen width in from each side. The height of the loud-speakers should be such that the high-frequency reproducing unit is about one half to two-thirds of the screen height. All too frequently, the loud-speakers have been placed too far back from the screen, which gives a reproduced sound with some echo and loss of intelligibility.

There is a quality of sound reproduction called "presence" which is difficult to describe but which approximately means that the sound appears to be radiating from the screen surface rather than some place behind; when speakers are placed too far from the screen there is a very distinct and marked decrease in this quality of presence. It is, therefore, important that the loud-speakers be located within six inches of the screen surface, which may require some modifications to the screen frame, but it is far better to do this at the time of the installation.

Even though the electrical output of the amplifier system from test films is alike, the quality is greatly influenced by the adjustment of the loudspeaker, such as shelving, placement, phasing, and distribution in the auditorium. These are all matters which the engineer will handle, and when done correctly, each loud-speaker will sound alike as to volume and quality when reproducing the same sound track. Once the loud-speakers conform to performance standards, the work will not need doing again, except as loud-speaking units may become defective.

Special "Effects" Track

In the early days of the introduction of CinemaScope with stereophonic sound, there was some debate regarding the value and importance of the fourth track for special effects purposes, but this has been largely settled with the experience of those exhibitors who did make the complete installation and, having found that their customers are aware of this feature, always ask that stereophonic release films contain as much material in the surround track as possible. The producer recognizes that the fourth track effects can be overdone, and should only be used when they enhance the presentation or create some special mood or circumstance appropriate to the picture being exhibited.

Surround Loudspeakers

The placement of the surround loud-speakers is difficult to specify since it depends to such a great extent upon the particular theatre, the size of the auditorium, location of the seats, the decoration, etc., but there are some general rules which apply.

If the ceiling is not too high, the surround speakers may be located at the junction of the ceiling and the side walls and rear wall. When placed correctly on the walls they should be 12 to 20 feet above the audience so that the person sitting nearest to the loud-speaker does not hear it at substantially greater loudness than someone further in from the side. There should be enough loud-speakers and the volume of each so adjusted that the sound, when reproduced over the surround speakers, is uniform throughout the auditorium without any one loud-speaker being evident as a single source.

The installing engineer has means for regulating the volume from the various loud-speakers to achieve good distribution of sound. Often, surround speakers must be placed underneath balconies to service the first floor audience seated in that area and, because of this, are usually too close to the audience. In such circumstances, better results can be obtained by using loud-speakers with tilted, or angled baffles or fronts, and install them in such a way that the loud-speaker points towards the underside of the balcony; in this way the audience then hears the sound after it has been reflected from the underside of the balcony and diffused so it no longer sounds as though it were coming from a single source. Usually, it is also necessary to reduce the volume from loud-speakers under balconies.

Another point, often overlooked, is that the surround loud-speakers should have reasonably good reproduction of all the frequencies used in sound, because many of the special effects which are put on the surround track contain low as well as high tones.

The surround loud-speakers may be used as an auxiliary means to reproduce intermission music throughout the auditorium by providing simple switching arrangements. This usage should only be considered if the loud-speakers are of good quality, but the small added cost of better speakers for the surround effects is more easily justified when there is more than one use for the system.

Auxiliary Equipment

The booth should be equipped with a simple demagnetizing tool and a means to test for magnetization, as described in Part IV. Additionally, a splicing block for CinemaScope film should be provided.

Any of the automatic rewinds are suitable for use with magnetic sound tracks.

PART III: UTILIZATION AND OPERATION

To get full utilization and benefit from magnetic stereophonic sound in the theatre there should be a sufficiently wide screen (Part II), correctly located surround speakers, a properly installed system without foreign noises, and intelligent adjustment of the sound loudness in the auditorium. Additionally, the equipment should be maintained in good condition—a subject which will be treated briefly later.

Sound Adjustment

Adjustment of the sound in the auditorium is a very important matter and, although the products from different producers are not very far apart, there are differences. The manager, or projectionist, should check the sound loudness in the auditorium for each new picture which is played, using dialogue as the best test. If the house is a large one, the volume should be adjusted so that the dialogue is just nicely audible and intelligible at the farther seats, otherwise it might be excessively loud at the seats closer to the screen.

Fader Settings

Nearly all theatres require a change in fader settings with the number of people in the theatre; as the theatre fills up, it will generally be found that the fader should be raised one or two steps. The manager should make it part of his job to periodically check the sound loudness and quality throughout the auditorium. The fader setting for the surround loud-speakers should be carefully determined for each picture. The surround signal channel is equipped with a device which makes the surround system active only when there is material to be reproduced. This is done by a special signal applied to the track when the print is made and used only for control purposes. This technical point is mentioned because it is necessary to know where there are sounds recorded on the fourth track before it is possible to make an adjustment for the loudness. Obviously, if the control signal system was defective, no sounds would be heard and no one would know that there was material intended for reproduction on this part of the film, and no way to adjust the loudness. If there is any question about there being signals on the fourth track, the control system can usually be disabled easily and then, by running a few reels, it can be determined whether there are surrounds or special effects signals and adjustment or corrections made as indicated. The service engineer can suggest ways to disable the control circuit. Twentieth Century-Fox includes with each stereophonic sound print, a cue sheet which indicates where there are surround recordings for reproduction. If the indicated signals are not heard it means that the control system is in need of attention. Also, knowing where the sound should be heard, a suitable reel can be chosen for adjustment of the surround loudness for each film.

Sample Procedure

One procedure by which to adjust the surround loudness is as follows: seated in a position two-thirds of the distance from the screen and approximately in the center of the theatre, adjust the volume from the screen horns for correct loudness; then, raise the gain of the surround channel until the signal from the auditorium speakers is just audible. Note the fader setting. Next, further raise the gain of the surround channel until the volume from the surround speakers approximately equals that from the screen and note this fader setting. Set the surround fader control to a position approximately one half between the two settings which were determined.

With the conditions described, the surround speaker loudness will not interfere with the sounds from the screen, but will be just sufficient to make the whole performance seem more realistic and enhance the presentation. If, for any reason, the loudness of the screen horns should be changed, the surround horns should be changed a like amount.

Dirty Film

Dirty film always looks badly on the screen and will cause excessive wear of the magnetic reproducing head. Film cleanliness may seem to be an obvious item, but too frequently it is taken for granted and carelessness in handling becomes the rule rather than the accidental exception. Film should always be handled in a clean place and not allowed to lie or rub on tables or floors. Occasional checks of the projection room by management will usually be beneficial.

Splicing Magnetic Film

There is no problem in the splicing of magnetic sound film. Using a splicing block

Continued on Page 56

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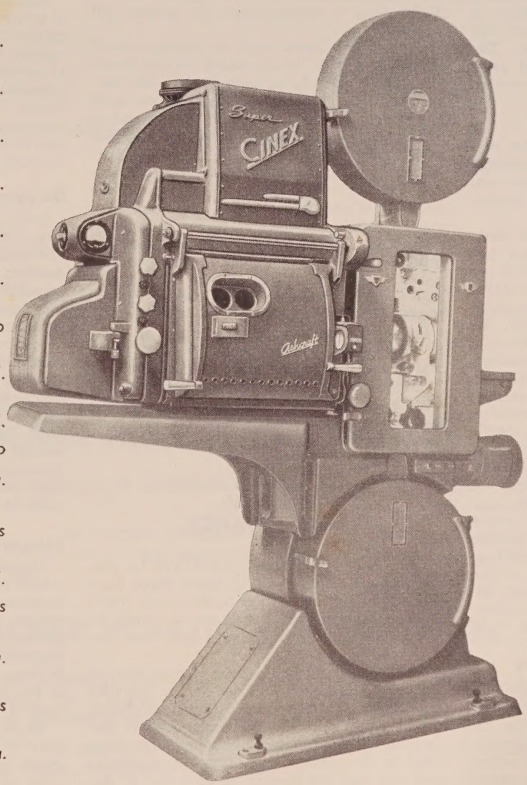

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PROJECTION SURVEY

Continued from Page 44

of all drive-in theatres visited this year (1958) have screen brightness levels under three feet lamberts when showing regular product, and in only five percent were brightness levels over five feet lamberts measured. Brightness levels such as these greatly detract from good presentation.

Increasing the efficiency of drive-in screens is, of course, the most desirable solution to this problem. There are no screen brightness problems where the excellent aluminum drive-in screen developed by the Research Council has been installed. In most cases, the installation of this screen requires comparatively costly modification of the screen tower. The result has been that only some 50 of these screens are in use. Recently, the manufacturer inaugurated a direct sales policy which lowers the cost of the screen 30 percent.

The development of another type of drive-in screen which uses the same optical principles is now being studied by the Research Council engineering staff. The goal of this study is the perfection of a screen that, in the great majority of installations, will not require expensive tower modification. The major goal, of course, is an installed price that will assure wide use of these screens.

General Observations

The Council theatre staff has had an unusual opportunity to meet and to exchange ideas with many people in all activities and all categories of authority in motion picture exhibition.

After visiting some 700 theatres in more than 100 cities, in 12 states, they have become firmly convinced that theatres which are well run are doing better business. Few technical deficiencies are found in such theatres. The presentation is pleasing and smooth. The picture is sharp, the screen brightness is right, the picture is properly masked. Attendants are courteous, there is adequate air turnover, the sound is clear, and the overall condition of the theatres is good; the only complaints heard about product were that there should be more of it. Such theatres were observed to be well attended when showing average good product, and turned people away on weekends when showing pictures which happen to click and get to be more talked about.

It seems logical to hope that improving presentation practices in our theatres will result in a healthier industry. If this is true, the more room for improvement found, the more benefit may derive from stimulating action in the proper direction.

Solutions To Common Problems

From expressed reaction, and from the many letters received by the Research Council from exhibitors in areas visited by the Council theatre field staff, this program has been fruitful in promoting good will within the industry. It has been effective in carrying forward its intended objectives. This has been done, not only directly in the theatres which have been visited, but also on a broader scope in the study of problems common to theatre presentation everywhere.

Solutions to such problems as heat on film, focal drift. excessive print wear. the design of practical, inexpensive gauges for accurate film path alignment, and a long needed new all-purpose projector alignment film have resulted.

STEREOPHONIC SOUND

Continued from Page 54

modified for CinemaScope, a good splice is made as follows:

(a) Scrape off the emulsion, as usual, on one side of the splice and scrape off the magnetic sound tracks on the other side of the splice to achieve base to base contact over the whole splice area.

(b) Apply only a sufficient amount of fresh cement; an excessive amount squeezes out and softens the sound tracks. With the careful application of cement, a good mechanical splice can be made without damage to the magnetic tracks.

(c) Do not rub or press on the sound track side until 10 to 15 seconds have elapsed to allow the track to dry, particularly if too much cement was used accidentally.

Scraping should be such as to provide as little as possible open space between the ends of the magnetic tracks which are joined. Spaces between tracks are points of no signal and usuallly make very little noise. However, if the space is unduly large, the splices will be audible.

The splicing block must be demagnetized; otherwise a "pop" in the sound will be heard.

Magnetic sound, of course, has its own peculiar field problems but these are easy to overcome when there is an understanding of the process. In general, it can be said that with reasonable care and in the usual projection booth circumstances, the use of magnetic tracks need cause no alarm. If the handling of magnetic films is confined to the usual rewinds, carrying cases, and projection apparatus, avoiding intimate exposure to transformers, motors, generators, and rectifiers, no more difficulties will be experienced than with the use of photographic sound tracks.

Sometimes theatres splice trailers or other items onto the last reel of the feature. When this is done, the splice must be made at least 28 frames from the last picture frame; otherwise, sound will be cut off, obviously leaving the screen dark for an instant, but this cannot be avoided.

PART IV: MAINTENANCE

Only a few important points will be discussed under this heading, since there have been previous articles published and much of the maintenance in the theatres is done by service organizations under specific contract with the theatre.

The exhibitor should take the advice of the service engineer and not decide upon his maintenance requirements for stereophonic sound equipment on the basis of past experience with photographic sound apparatus, because the latter uses fewer components and has had the benefit of 25 years of development and improvement. To obtain the full value from a stereophonic sound system, the amplification in each one of the principal tracks should be very little different from each other, and quality differences from the three loud speakers during reproduction should be hardly discernable.

Variations from the proper conditions can result from a large variety of causes, principal of which are defective vacuum tubes, variations due to wear of the magnetic pick-up head, and defective loud-speaker units. Very often, these distracting variations occur gradually over a period of time and are not always apparent to the projectionist or the exhibitor until they have reached serious proportions.

SMPTE Test Film

The Society of Motion Picture and Television Engineers has available a test film which is very useful as an overall check on stereophonic sound systems. The film runs only three minutes and contains recorded material so arranged that loudness and quality of each one of the channels can be readily compared individually by listening to reproduction in the theatre. The nature of the material is such that differences between channels are easily detected by an untrained ear.

Also included in this test film is some recording on the number four track which will show whether the surround loud-speaker system is working properly. This film is not expensive and, by its use, exhibitors can easily tell when their system is in need of service.

Recording Heads

Magnetic recording heads do wear and, if service is delayed too long, the reproduced quality will be degraded seriously by a readily apparent loss in the high frequencies of speech and music. Life of magnetic sound reproducing heads is determined by many factors, but generally it can be said that two to three thousand hours of theatre operation may be expected, which is five to eight million feet of film per machine.

Damper

Every sound head includes in the mechanism a device known as a "damper," whose operation usually depends upon a special medium thick oil. Unless monthly service is purchased, the projectionist should check this unit regularly to assure that there is sufficient oil for satisfactory operation; lack of oil removes most of the damping action resulting in "wows" in the reproduced sound. Another source of "wow" in the sound reproduction is the upper feed spindle and roll, which require regular attention for good performance. The holdback clutch should be adjusted and maintained for minimum tension and smooth operation, only good reels should be used, and the film path correctly aligned for uniform film pull.

Magnetization Problem

Magnetization of the parts of the projector which contact the magnetic sound tracks will degrade the recordings thereon and may increase the reproduced noise. Once a projector has been thoroughly demagnetized, or degaussed, at the time of the installation, it does not require much attention unless it has been worked upon with magnetized tools or new parts have been installed.

Experience has shown that it is not necessary to demagnetize projectors every day or every other day and sometimes not even as often as once a month, but what is indicated, is that at regular intervals, the projectionist make a simple check of the magnetization of the critical parts of the projector and if these are found to be magnetized corrections should be effected.

The most critical parts in projectors are the gate rails and guides, the pressure shoe, and the intermittent sprocket shoes; less critical parts are the sprockets, rollers, and fire-trap rollers. If the magnetic films must be threaded through the optical sound head,

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the sound gate or impedance drum are also of importance. With a new installation of magnetic sound equipment and after the projector has been properly demagnetized, it is suggested that tests for magnetization be made each two weeks for the first six weeks and, if no difficulties arise during this test period, the test procedure can be reduced to one per month for the following three months; if no magnetization problem arises in the first four and one half months it is quite safe to test for magnetization only once every two months thereafter.

If service is purchased on a regular basis calling for attention every other month, or oftener, the service engineer can check for magnetization and apply corrective measures when needed provided, that he is allowed sufficient time.

Magnetization Tests

The Third Revision of the CinemaScope Handbook "Information for the Theatre" contains an excellent and detailed description of satisfactory demagnetizing procedures. It will be sufficient to describe simple tests.

Compass

The most common indicator of magnetic fields is a compass. A small unit, not over three-quarter inch in diameter, of such shape that a brass, plastic or wooden handle may be attached, is most useful. Although not available everywhere, a compass with jeweled bearings is by far the best as it is more sensitive, will not stick and lasts longer. When parts can be readily removed from the machine, lay the compass on a flat surface and move the part around as in Figure A, Page 52. Sprocket wheels should be checked at several places around the circumference and at both sides of the teeth. With other parts, pay special attention to points or sharp corners of the part. Detrimental magnetic fields of a part being tested will swing the compass needle violently when brought near one or the other ends of the needle.

Magnetic fields low enough to be just barely safe will promtply reverse the needle pointing when the part is brought close to the end of polarity which causes the needle to be repelled. If the other end of the compass needle is subjected to the same part the needle will promptly be attracted to it. Safe magnetic fields will move a sensitive compass needle about 30 degrees, or the equivalent of one-third the distance between each of the points of the compass. A less sensitive compass may only move 15 degrees. A thoroughly demagnetized part, within one-quarter inch of the needle, will just barely move it. It is sometimes desirable lightly to tap the surface upon which the compass is resting to avoid sticky bearings.

For testing those parts of the projector not readily removed, the compass must be moved about the machine, close to the parts being inspected, being careful to hold the compass level and to move smoothly, otherwise the needle jiggles so much that the needle indication of magnetic fields might be inconspicuous.

Steel Pins

The second kind of test is best done with the part removed from the machine but it is a test which is more sensitive, is not dependent upon the action of different kinds of compasses and the results are indicative of actual field strength and reproducible. Obtain from the notion section of a department store or from F. W. Woolworth and Company, or any five and 10 cent store the following items.

(1) A small quantity of common pins three-quarter inch long (these are shorter than the most common variety and are usually found in the dressmaking department. These pins must be of steel or iron; if there is a question, test them with any ordinary magnet.
(2) A spool of silk thread, size A or #50. Alternatively size 60, mercerized, may be used.
(3) Scotch Tape.

Bend the pin in the middle slightly to form a flat "V" and demagnetize it using a coil type demagnetization tool. The pins may be demagnetized in bulk prior to use. Take a piece of thread 12 to 15 inches long and remove the kinks and bends by pulling through the moistened tips of two fingers until the thread will hang reasonably straight. Tie one end of the thread to the pin at the bendpoint and shift the knot slightly, if necessary, to make the pin hang balanced. Using the Scotch tape as a fastener, suspend the pin by the thread from the projector door or the overhanging edge of a work bench or shelf. Allow about 10 inches of free hanging thread.

After the pin movement has quieted, approach the head end of the pin with the part or surface to be tested, as shown in Figure B, Page 52. Explore many separate points on any surface and all points, ends or edges of the part. The pin will be attracted to the magnetized part and will stick to it as the part is slowly moved away to swing the thread from the vertical position. Finally, when the magnetic attraction is not strong enough to pull the pin, pendulum fashion, any further, the pin will break

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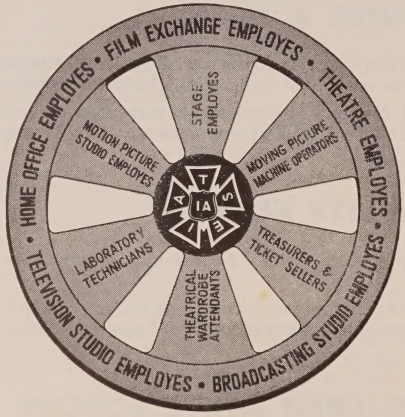

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away and hang vertically again. After each test the pin should be demagnetized or erroneous results will be obtained.

The magnetic strength being measured can be evaluated as follows: fields strong enough to be injurious (10 gauss or more) will attract the free-hanging pin from a distance of three-sixteenth inch to one-quarter inch or more and the pin may be pulled two inches to two and one-half inches from the vertical position, if no downward pull is used, before it breaks away.

Fields just barely safe (about five gauss) will attract the pin from a distance of three thirty-seconds inch to one-eighth inch and the pin may be swung about three-quarter inch from the vertical.

Small safe fields (about two gauss) will attract the pin about three-sixty-four inch to one-sixteenth inch and permit a swing of one-quarter inch from the vertical.

Still smaller values of field strength will just barely show attraction of the pin to the part being tested and the pin can be moved from the vertical position very little. In this instance, there is merely a suggestion that the pin is attracted or can be pulled at all.

Thoroughly demagnetized parts have no attraction to the pin whatsoever unless the pin itself is magnetized.

Using a shorter piece of thread and a demagnetized pin, some parts of the projector may be checked while assembled by moving the pin close to the parts and closely watching the pin action. Any part which attracts the pin and tends to hold it from pulling away—an action that might be described as "sticky"—should be demagnetized.

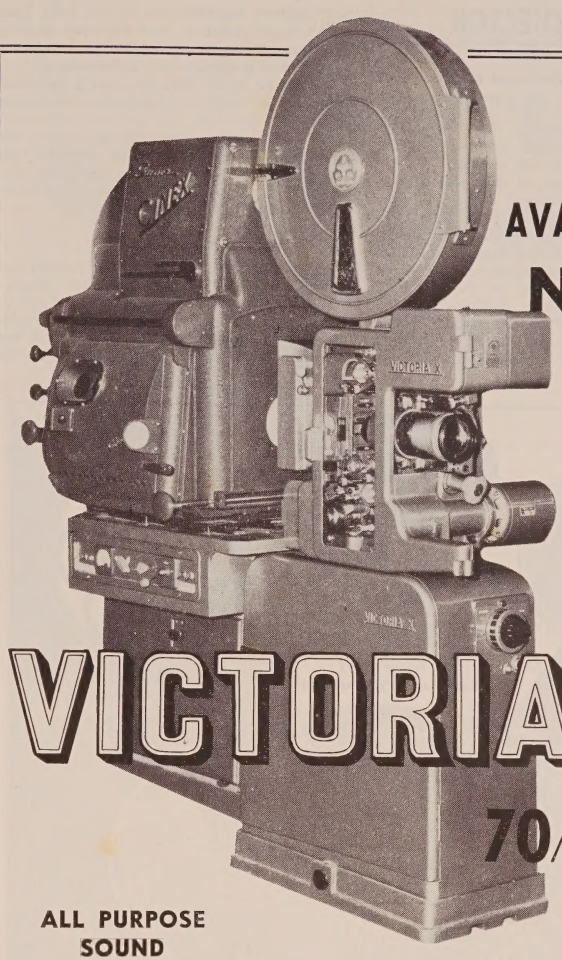
The procedures described above have been given in considerable detail for reasons of clarity and completeness. With a little experience it will be found that the work is not as laborious as it might seem on first reading. If the indicated practices are followed, no damage will be caused to magnetic tracks by magnetization effects.

The projectionist usually can locate noise due to vacuum tubes by successively turning off the pre-amplifiers or the booster amplifiers, if there are any, to localize the trouble in a general way; then, by progressively changing tubes, the defective ones can be found and eliminated. Most noisy tubes are to be found in the pre-amplifiers.

CONCLUSIONS

No one can deny that the motion picture industry is facing stiff competition. It must, therefore, explore all possible means which will be helpful in maintaining its position in the entertainment field. There are immediately available means by which the commodity can be made more attractive, more pleasant, and more novel, one of which has been described in this article: stereophonic sound. No one suggests that superior presentation or any gimmick can magically transform a poor piece of entertainment into excellent fare, but it is certain that good presentation, different and modern in form goes far in making any production more satisfying and enjoyable. There are many signs that the worst times are past and that a better product is coming, warranting an optimistic attitude towards the future and the taking of the businessman's risk.

Television is going forward technically every day, every week, and every month. Soon it will have a great deal of color available. The motion picture industry similarly must go forward or tolerate a mediocre role in the entertainment field rather than that of a giant. Let's accept the challenge and do something about it.



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CENTURY PROJECTOR

Continued from Page 43

surfaces with the film and, more especially, with the film emulsion itself—which, of course, mechanically is not feasible.

It is not the purpose of this presentation to go into the controversial subject of how best to operate motion picture film in a projector with minimum film damage, buckle, in and out of focus, etc. Such discussions are best isolated into technical studies of the individual heat effects on the film and methods of reducing them. Sufficient for the purpose of allowing projectionists and theatre owners to evaluate properly this new projection equipment is the substantiated statement that Century believes that for the high light transmission obtained, that the heat causing film damage has been handled in a manner to reduce this damage to a minimum.

The curve of the film trap shoes has been designed to obtain a maximum stabilizing effect for the film during the projection cycle and at the same time to reduce the pull on the film as much as possible thus saving sprocket holes. Film stabilizers are used at the upper loop to reduce film noise and damage.

The Film Gate

The film gate follows the fundamental design of previous Century projector mechanisms. These designs give a freedom of movement to the gate shoes, allowing them to self-align with the film trap shoes and at the same time make a rigid, quiet support in the direction of film travel.

The gate shoes are, of course, curved to fit the film trap shoes. These shoes, like the film trap shoes, are heavy and solid, and have a hard polished chromium plate. Thus the film is supported in a proven design which holds it firmly but gently in position for accurate, stabilized, steady pictures.

The Lens Mount

A new lens mount has been incorporated in this 70/35mm mechanism which is patterned after the Model H mechanism. The lens mount and gate support have been separated so that not only does the gate opening knob open and close the gate smoothly and easily, but also the lens mount itself provides for shifting the center line of the lens to the center line of the film under the control of a calibrated, designated adjustment knob. This knob could, under certain circumstances, be used accurately to position the picture on the screen for certain conditions. This optical center line adjustment is necessary because of the difference in the picture center between standard 35mm film and 70mm film.

The calibrated knob adjustment incorporated into the new lens mount eliminates the need of eccentric adapter bushings which must always be rotated into proper position to compensate for the center line shift. It also places the lens into proper position without introducing "errors" in positioning the picture on the screen from lens "errors" introduced when lenses are turned in their mounts. In other words, with the Century lens mount, the lens is always in the proper position for optimum screen results.

The lens clamp makes contact with the lens barrel over a considerable portion of its length. No longer is the lens clamp merely a strap. The whole mount becomes a complete clamp insuring accurate focusing and exact picture positioning on the screen.

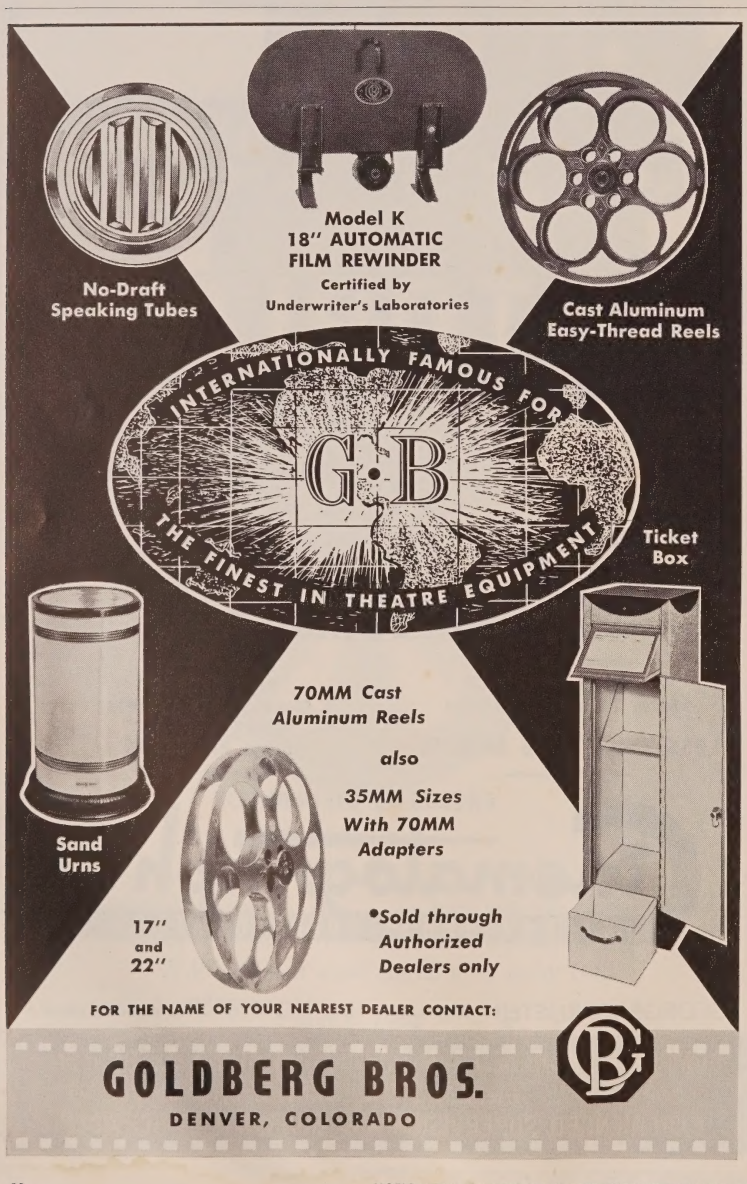
Shutters

The Model J Projector has double rear shutters of the disc design. Comparative measurements disclose that double rear shutters provide the highest possible light efficiency consistent with good mechanical and light practice. The shutters run at a safe, conservative speed absolutely synchronized with the intermittent movement.

Every revolution of the two shutters represents the projection of one frame of the motion picture film. There being two light openings per revolution of the shutters, the frequency of light pulse is 48 per second.

The design of the Century system of intermittent movement and shutter anticipates that development work now in progress may result in even higher efficiency operation, with an increase in the frequency of light pulses reaching the screen. In anticipation of this becoming a reality this new projector has already made provision to accept these new developments as soon as they become commercially available.

All heat shields, shutter guards, etc., are capable of being used with light paths having a speed of F 1.5 to F 1.6. It is believed by the best authorities in the optical companies that such high speed operation of arc lamps and lenses is difficult to attain while maintaining the optimum in light efficiency, resolving power, minimum aberration, and definition. This is especially true when projecting 70mm film. Without reservation, Century claims that the Model J mechanism has provided for the highest transmission of light (screen bright-



ness) with the minimum amount of flicker possible within the known factors of motion picture engineering at this time.

A unique design of the shutter guard employs the air circulating power of the shutter blades (otherwise thrown away) to circulate a large volume of air around the non water cooled shields and heat absorbing filters to carry away any excess of heat developed by the arc lamp in these units.

The heat shields used in all Century projectors are designed scientifically to allow the full passage of unobstructed light and to prevent unwanted radiant heat being trapped before it reaches the aperture or film.

In considering any problem relating to heat and projector operation it is necessary to recognize the definite difference between the terms heat and temperature. When we say something is hot, we actually mean the temperature is high. Heat on the other hand is a measure of the quantity of that which can make something hot if it is not removed. In analyzing a Century projector, recognition of the devices used to remove the heat will explain why the Model J mechanism, without auxiliary air blowers, remains cool and operates with lower film temperatures. If there is any doubt, a simple test by feeling the take up reel of film after a run is most convincing because its temperature is lower and therefore it feels cooler.

The Optical Reproducer

The optical reproducer is essentially a standard, proven, Century design modified to bypass the 70mm film. The film stabilization used in this reproducer won an Academy of Arts and Sciences Award for "Improved Reproduction for Motion Picture Theatres and Studios." It is the basis of practically every good recording or rerecording system in use in the major studios of Hollywood. Since this Award was made, there has been no sound reproducer designed or built with an improved operating result as to warrant further recognition by any qualified engineering organization such, for example, as the Academy, or the Society of Motion Picture and Television Engineers.

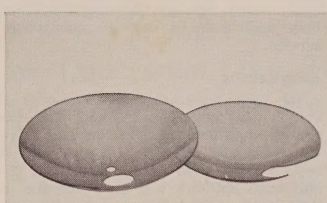
Attention should be called to the universal adaption of the Model J Projector for mounting to existing standard pedestals. When supplied as a complete projector, Century recommends the Model C pedestal or the heavier special Delux pedestal, which is designed for the new special arc lamps now being used in critical locations.

The Magnetic Reproducer

The magnetic reproducer follows the same design methods as the optical reproducer. The film paths are simple and direct and leave plenty of room for handling the wider 70mm film.

There are two magnetic clusters (heads) incorporated in the reproducer. One provides reproduction for 35mm magnetic CinemaScope sound tracks (four channel or single channel), and a second provides for the reproduction from the six channel 70mm film. Century believes that the added cost of providing two pick up heads (one for 35mm and one for 70mm) is justified in the long run because of the probable unequal projection time of 35mm and 70mm films. Thus, when worn heads need to be replaced, only that head which has worn will require replacement.

In addition, there are two separate film paths (one for 35mm and one for 70mm). Thus, the projectionist can easily recognize, by looking at the film, whether it has been threaded correctly past the right pick up



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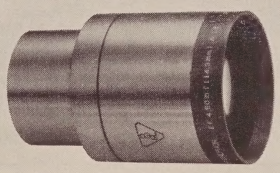

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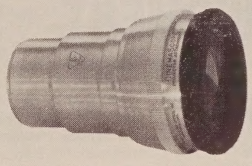

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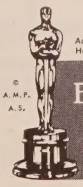

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head. The film stabilization being of the tight loop design, controlled by accurately designed spring tensions, the optimum film pressure against the pick up heads is assured by checking the loop size gauge, which is large and prominently marked with a red line which cannot be missed even in the reduced illumination of the average theatre booth.

This magnetic reproducer is driven from a direct extension of a vertical shaft from the projector mechanism. The film is under no greater tension or pull than in any standard projector and it is under even less than in many 35mm projectors. The driven sprocket in this reproducer insures also that the film is pulled from the feed magazine in a smooth, even manner minimizing variations in film motion which might cause flutter or wows. Two separate solder terminal strips are provided with substantial lugs for the serviceman to connect cables to the 35mm four track and the 70mm six track heads.

Each pick up head has its own plug arrangement so that a head may be easily changed. Each head is pre-aligned and preset, so that no additional alignment adjustments need be made if by chance a head is replaced. All of these refinements are necessarily costly, but have been included because they contribute to ease of installation and service.

Magazines

The film magazines are 24 inches in diameter to take 22 or 23 inch reels. The spindles are one-half inch in diameter and drive the reels through pins. Both 35mm and 70mm reels may be used in the magazines. If one-half inch spindles are used for the 70mm reels, then special 35mm reels are required, providing fast changes (30 seconds) are to be made from one film dimension to the other.

If a decision is made to operate for a period of time running only 35mm film, a simple change of the operating side spindle can be made. Thereafter, standard 35mm film reels can be used until the next 70mm show is scheduled. The spindle can then be changed to one-half inch. It is recommended that whenever 70mm film is projected that the one-half inch spindles are used.

The new and larger magazines contain ball bearings throughout and a new proven system of tension devices. The take-up has been designed to handle the increased size and weight of the 70mm reels, at the same time being entirely satisfactory for the 35mm film. At no time while the film is in motion is the entire pulling tension of the upper magazine plus the reproducer or the hold back tension of the lower magazine plus its reproducer assumed by the sprocket holes of the film. Part of this load is compensated for by the tight loop tension of the film stabilizer. Because of this feature, film breakage is practically eliminated and longer film life assured.

The Gear Drive

The gear drive, except for the extension of the vertical shaft to the magnetic reproducer, is the same heavy construction which has been used for years in the standard 35mm equipment, modified where necessary for the running of 70mm film. By using these designs, replacement parts are assured at every servicing depot handling Century equipment. Naturally, the availability of such items applies to the gear train and drive shafts only, and not to the expanded sprockets, etc., pertaining to direct contact with the 70mm film.

Film Traps and Rollers

The 35mm fire traps are removable when running 70mm film. Both the upper fire trap and lower fire trap are interchangeable so that there is no chance of a mixup when making a fast change to 35mm operation.

Film Speeds

At one time it was thought desirable to run film at 30 frames per second. Since then, however, the industry has accepted a standard 24 frames per second as the most economical and feasible. The standard Century 70mm/35mm projector will run at 24 frames per second. If, by chance, a picture having 30 frames per second speed is programmed, the projector easily can be changed to the now obsolete speed.

Changeover Operation

Turn over three pad rollers from 70 to 35mm designation, slide out the film trap and gate; slide in the 35mm film trap and gate, and the projectionist is ready to thread 35mm film. To change from 35mm back to 70mm, the same operation is followed, sliding in 35mm film traps and gates. The whole operation should not take longer than 30 seconds.

Installation

The installation of the Model J projector is not unlike that of a standard 35mm projector. Each unit may be shipped and installed separately. Each unit is replaceable for servicing and/or repair. As a matter of fact, the projector mechanism itself can be installed and operated on a standard 35mm optical reproducer and with a standard 35mm penthouse reproducer with standard 35mm magazines, pending full modernization to 70mm operation. Thus, only a fraction of an original investment need be made until such time as a 70mm program is actually scheduled; then further investment can be made to prepare fully for running large film widths.

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Food and Refreshment Merchandising

In Self Operation or Concession, the Theatre's Welfare Is the Paramount Consideration; Here are Two Viewpoints

INDEPENDENT OPERATION

By Philip L. Lowe
Lowe Merchandising Service, Inc.

• Mr. Lowe, recently elected president of the National Association of Concessionaires, has long been active in exhibition and in the theatre food and refreshment field. He is in a position to look at theatre food and refreshment merchandising with a unique, dual point of view because he is currently both a concessionaire (Lowe Merchandising Service, Inc.) and an exhibitor, associated in the operation and ownership of a number of New England drive-ins.

Basic Truths

WHETHER THE THEATRE FOOD and refreshment operation is conducted in a conventional house or at a drive-in, certain basic truths must be understood before a merchandising analysis has any meaning. These truths are as indispensable to the concession operation, which we will examine later, as they are to the independent operation.

To begin with, it is essential that the theatre itself do good business if the refreshment stand is to profit. The theatre's gross is the basic thing with which the exhibitor-stand operator (and the concessionaire, when there is one) must be concerned.

At the same time, the exhibitor must ask himself whether the refreshment stand actively contributes to the profitable operation of the theatre or whether it is a detriment.

Second, the theatreman must know that the refreshment facility is the best he can economically afford. It is necessary to realize here that it would not be sound business practice to equip a large stand in a small theatre. But the stand that belongs in the small theatre should be well equipped, well designed, appealing, and kept up-to-date. Although you cannot afford first run film costs in a small neighborhood house, you should at least operate the theatre, regardless of run, with an intelligent policy of booking and exploitation. The refreshment business is no different.

Third, whether large or small, drive-in or roofed, you need make no compromise with quality in the theatre food and refreshment operation. All your items can be "National Release Date," all socheroo, all can have "star" appeal. You don't have to take a back seat to anyone here. So take advantage of it!

Food and Entertainment

In subscribing to the theory that food and entertainment cannot be divorced—which the vast majority of theatremen now do—it must be recognized that over 23 percent of all personal income in this country is spent on food, while only five percent is earmarked for entertainment. Therefore, it is obvious that the food market is almost five times as large.

Theatres, we believe who provide edibles in them, are a perfect setting for food and drink, which should not and cannot be divorced from entertainment.

In the case of two theatres playing the same picture, at the same price, and in the same neighborhood, we are convinced that the one with the best refreshments is going to get the patronage. While food is not the selling factor when the film is no good, it very certainly is the plus factor when the picture is superior and all other things are equal, with respect to the physical theatre.

Food and Management

Top management and the location management of the theatre cannot be aloof from the food operation, whether independent or concession. It is extremely important, no matter what the circumstances of the operation, that the exhibitor on every level retain some supervision of, and active interest in, the refreshment stand.

Basic Merchandising Rules

There are a number of things the exhibitor can and must do to insure that his self-operated adjunct to the theatre really means something toward its welfare. This means, again, top and local management sharing in operational policies of the facilities. One of the most important considerations is to make sure that the basic rules of good merchandising are followed.

Some of these rules are:

1) Absolute cleanliness of the physical plant and the personnel. In our own situations, we endeavor to have all attendants in uniform.

2) Patrons of the theatre must be sold what they want at a fair price. For instance, it should go without saying that we would not undertake selling tamales in New England, any more than we would try to move chowder or pancakes in Texas.

3) What is sold must be of good quality, properly prepared, and properly served.

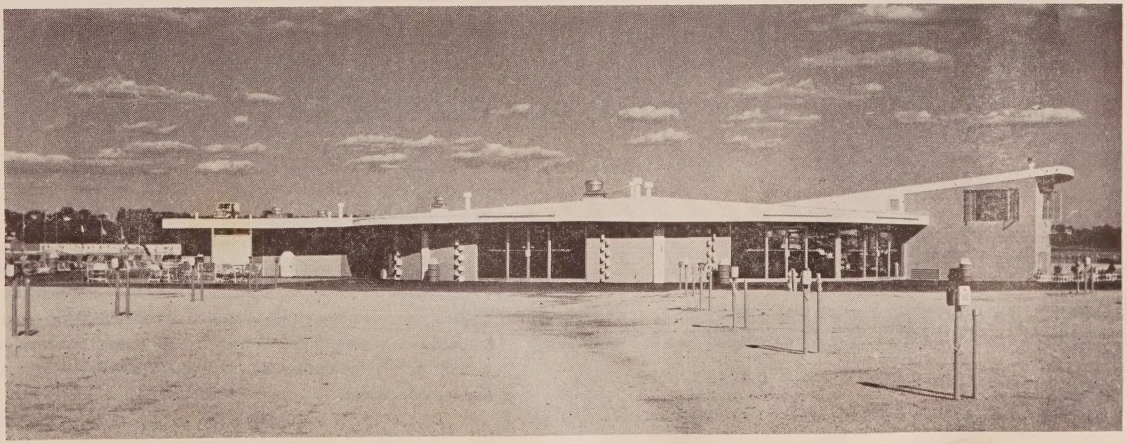
4) Standard and proven merchandising procedures should be followed.

These are two *proven* methods:

a. Offer drinks in more than one size.

b. Use color schemes which have been found conducive to buying food and drink. Red and green, for example, have been found unfavorable for food merchandising. Light pastels of yellow, blue, coral and other shades are better when color must be used.

5) The operation should be slanted to all elements of the theatre's patronage. It is just as important to offer a 10 cent ice cream package for children as it is to offer one at 25 cents for adults. Also, it is important to offer low profit items, like milk, for which there is a demand.



THE CAFERAMA at the Shipyard Drive-In, Providence, R.I., is cited by the author as an example of progressive theatre refreshment facility design.

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6) Maintain an open mind toward unproven merchandising methods and toward new items which can offer increased profits when handled properly. With respect to this last point, the exhibitor operating his own facility should do certain very definite things to keep abreast of the field:

a. He should read as many dependable and informative trade papers as possible, analyzing what they have to say in the light of what he is trying to do.

b. He should attend every convention accessible to him, whether or not he is affiliated with the group which is meeting.

THE CAFERAMA INTERIOR is laid out in the cafeteria style, the author's preferred system.

c. He should devote as much time as possible to trade shows, giving the show exhibitors an opportunity to sell him new ideas. When he knows food equipment and products, he is on his way to a profitable operation.

Merchandising Gimmicks

A gimmick which has proven itself a definite contribution to the theatre operation is one concerning the merchandising of milk. Low on profit, milk can serve you in other ways. We have tried successfully to move it at 15 cents with the pitch that we will fill a baby's bottle for nothing. "If you must buy milk, we give it to you; if you want it, you pay." This is the kind of approach to the theatre's general well being that all refreshment stands must aim for.

Another example of this is based on our conviction that customers want to be entertained from the time they enter the theatre until the time that they leave. At drive-ins, especially, running taped music and refreshment stand plugs over the sound system entertains patrons and reminds them at the same time of merchandise which can please them. An hour before the show, a disc jockey takes over—in theatres where interest can be maintained in this way—who plays more music, cracks jokes, and, most important, for certain pre-announced activities, awards prizes. These prizes are almost always food items which have been promoted from suppliers: a six-pack of a soft drink, or a one pound package of hot dogs, or some other item currently being promoted. Or, free slips can be distributed for a specific item which we are introducing, another proven method of bringing the theatre patron to the refreshment stand and, at the same time, establishing an addition to our menu. Any time people receive more than they bargained for, you get what you want: you build attendance.

Another proven gimmick is the occasional or regular instruction to patrons arriving at the theatre to keep their ticket stubs. Later, five numbers are posted at the refreshment stand for a certain amount ($1.00 or less) of refreshment items. This is certain to get people out of their cars or their seats at intermission which, whether they know it or not, contributes to their overall enjoyment of the entertainment. They are getting more than they bargained for because we are bringing them to the scene of activity. This is particularly important at the lobby-less drive-in. Americans are a gregarious people, fundamentally: they like crowds, they like to go to

ABSOLUTE CLEANLINESS of the physical plant and personnel for the preperation of food are two principal merchandising rules. Shown here are the kitchen facilities of the Shipyard Drive-In Caferama.

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- Banners, Flags
- Display Cases, Easels
- Letters, Silhouette
- Marquees
- Marquee Letters
- Poster Frames
- Posters, Heralds
- Signs
- Trailers

AIR CONDITIONING
- Air Conditioning Systems
- Air Filters
- Blowers
- Diffusers
- Fans

CONCESSIONS
- Bags
- Beverages
- Beverage Dispenser, Fountain
- Boxes
- Bun Warmers
- Butter Dispenser
- Candy
- Coffee
- Coffeemaker
- Chocolate Drink
- Chocolate Drink Dispenser
- Concession Stand
- Concessionaire
- Canned, Prepared Foods
- Cups
- Cup Dispenser
- Food, Frozen
- Food Preparation Equipment
- Fountains
- Gum
- Hamburger Grills
- Hot Dog Machines
- Ice Cream
- Ice Cream Cabinets
- Ice Cream Dispensers
- Ice Machines
- Malt, Shake Machines
- Nuts
- Pizza Equipment & Supplies
- Popcorn
- Popcorn Seasoning
- Popcorn Warmers
- Popcorn Machines
- Refrigeration Units
- Soft Drinks
- Snow Cones

COIN VENDING MACHINES
- Candy Vender
- Cigarette Vender
- Coffee Vender
- Coin Changers
- Drink Vender, Cup
- Gum Vender
- Hot-Cold Cup Venders
- Ice Cream Vender
- Juice Vender
- Milk Vender
- Nut Vender
- Popcorn Vender
- Sandwich Vender

DECORATION FURNISHING
- Carpets
- Carpet Cushion
- Curtains, Stage
- Curtain Controls & Track
- Decorators, Designers
- Draperies
- Drink Fountain
- Fabrics, Wall
- Flooring
- Lounge Furniture
- Mats, Rubber
- Paint
- Sand Urns
- Stage Rigging
- Tile
- Traffic Control

HEATING
- Fans
- Furnaces
- Heat Pumps
- Humidifiers
- Insulation, Thermal, Acoustic

LIGHTING
- Aisle Light
- Batteries
- Color Wheels
- Dimmers, Controls
- Directional Signs
- Emergency Light
- Spot & Flood Lights
- Switchboards
- Transformers

MANAGEMENT
- Theatre Forms and Systems, Personnel Training
- Uniforms

PROJECTION
- Aperture Plates
- Blowers, Lamphouse, Portole
- Carbons
- Carbon Saver
- Changeover
- Dowsers
- Film Cabinets
- Film Cement
- Film Coolers
- Film Magazines
- Film Reels
- Film Rewinders
- Film Splicers
- Lenses
- Motor Generator
- Projectors
- Projection Arc Lamp
- Projector Parts
- Pedestals
- Rectifiers
- Reel End Signals
- Reflectors
- Rewinds
- Rheostats
- Screens
- Sound Equipment
- Sprockets
- Television, Theatre
- Transformers

SAFETY SUPPLIES
- Door Hardware
- Exit Devices
- Fire Alarms
- Fire Extinguisher
- Fire Hose
- Kick-Push Plates
- Ladders

SANITARY SUPPLIES
- Carpet Cleaners
- Deodorants-Disinfectants
- Floor Cleaners
- Hand Dryers
- Mops—Brushes
- Soap Dispenser
- Upholstery Cleaner
- Vacuum Cleaners

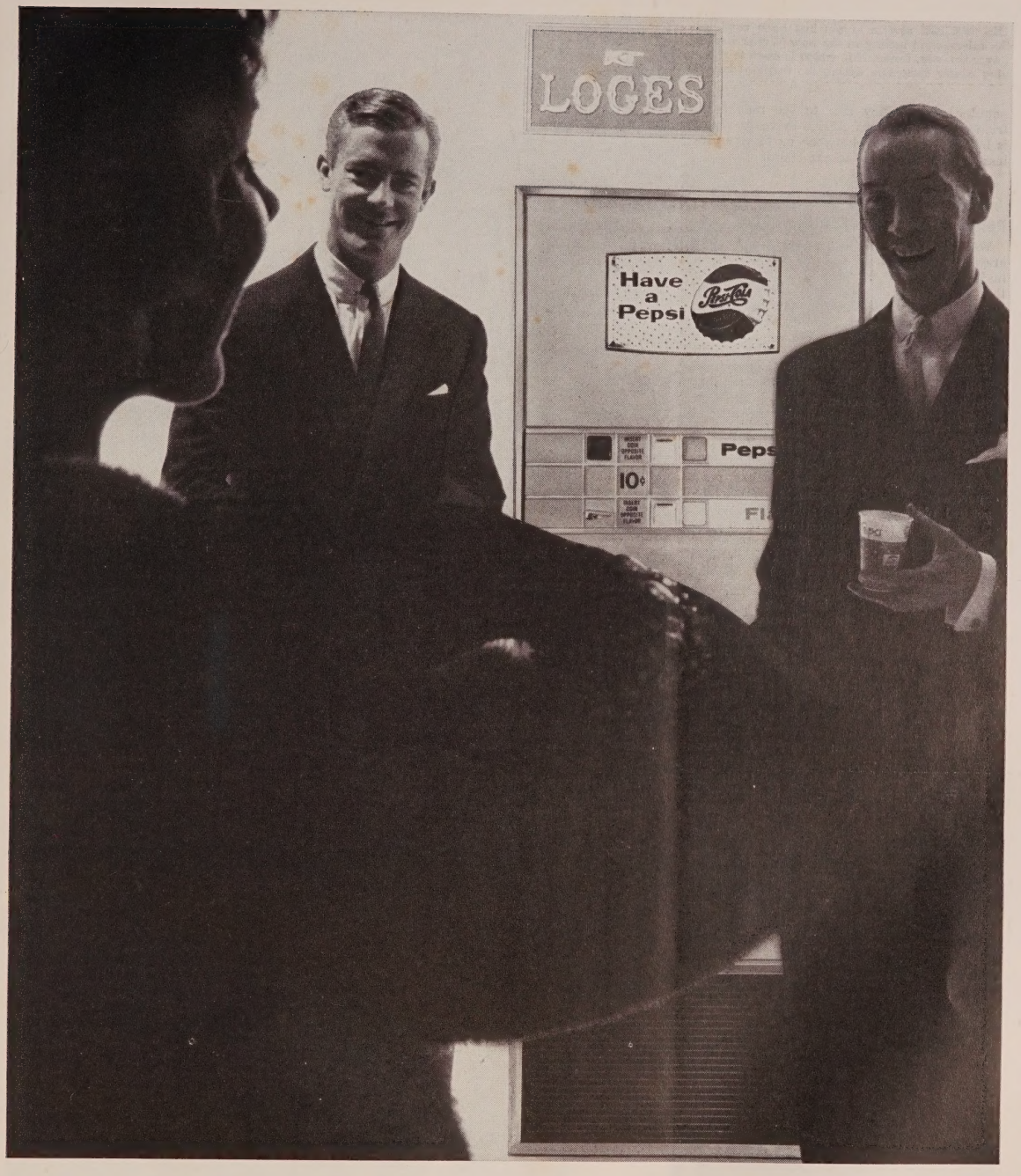
SEATING
- Auditorium Seats
- Drive-In Seating
- Seat Covers
- Seat Cushion
- Seat Reconditioning
- Upholstery Material

SOUND EQUIPMENT
- Amplifiers
- Inter-Coms
- Exciter Lamps
- Microphones
- Pre-Amplifier Cabinet
- Public Address System
- Sound Equipment, Theatre
- Sound Heads
- Sound Service Companies

TICKET OFFICE
- Admission Signs
- Boxoffices
- Cash Control Systems
- Change Making Machines
- Coin Sorters
- Tickets
- Ticket Boxes
- Ticket Machines
- Ticket Registers
- Turnstiles

DRIVE-INS
- Admission Control Systems
- Attraction Lights
- Benches
- Directional Lights
- Dust Control Systems
- Fences
- Fireworks
- Floodlights
- Insect Controls
- Flares, Light
- Heater, In-Car
- Miniature Trains
- Paint
- Picnic Table
- Playground Equipment, Rides
- Pools, Swimming
- Post Lights
- Quarter Midget Racers
- Ramp Lights
- Screen Facing
- Screen Paint
- Screen Towers
- Seats, Walk-In Patron
- Speakers, In-Car
- Speaker Cords
- Speaker Cover
- Speaker Posts
- Speaker Repair
- Sweepers
- Underground Cable

BE SURE TO ADD YOUR NAME AND ADDRESS IN SPACE PROVIDED ON THE ATTACHED REPLY CARD.



Preferred and Profitable... Pepsi-Cola's 292% gain in syrup sales since 1950 shows that your customers recognize Pepsi quality and prefer this refreshment. Why not select the brand that has more to offer in both prestige and profits? Among those profiting by the big preference for Pepsi are: Interstate Circuit, Inc., Malco Theatres, Inc., Walter Reade Theatres, Inc., Skouras Theatres, Inc., Stanley Warner Management Corp., Crescent Amusement Co., and many other theatre owners. *Get details from your local Pepsi-Cola bottler or write to: National Accounts Dept., Pepsi-Cola Co., 3 West 57th St., New York 19, N. Y.*

PEPSI-COLA

THE STATION system layout has been used for the refreshment facility at the new Walter Reade Dover Drive-In, Dover, N.J., which is open to shopping center customers during the daylight hours.

popular places, they like to see neighbors, friends, and strangers. At the drive-in, there is little or no contact between customers unless you can get them to the stand.

CONCESSION OPERATION

Relationship With Exhibitor

When a concessionaire comes in to operate the theatre food and refreshment stand, he is taking the responsibility to exercise authority properly. On the other hand, he must have from the owner and/or manager intelligent cooperation, which should take the form of reasonable selling time during an intermission; however, he should not insist on unreasonable selling time. He must remember at all times that he is operating for the exhibitor's good as well as his own, and that prolonged intermissions cannot have a good effect on the welfare of the theatre.

The concessionaire, in general, should feel that he is getting the same kind of cooperation from the theatreman as he would from a partner although, of course, that contractural obligation is not present. Further, he should expect suggestions from the theatre's management and give them every possible consideration in the light of his more experienced position in the food field. The theatreman should feel obligated to make suggestions, but not to insist that they be carried out. The relationship should be a two way street in which, should increased facilities or the like be mandatory, the theatreman is open minded; the concessionaire must be prepared to meet this cooperation with effort and results which justify it.

With respect to the agreement between concessionaire and theatre owner, the concession business is moving too fast to permit short term contracts, which easily can result in a stagnant situation of no benefit to theatre or concessionaire. The entire concept of a reasonable, working arrangement between the two is basic to success of both.

As the king pin of this part of the theatre operation, the concessionaire's primary purpose is to sell food and to make money for everyone concerned. The concessionaire operating properly does not "gouge" anyone; least of all the public. He uses good quality food and follows other merchandising practices stated heretofore.

Give And Take

But, owing to the competitive nature of acquiring the concession contract, the owner can often push the concessionaire into an agreement which makes it difficult for the latter to do all he might want. The theatreman is obliged, in his own interest actually, to be careful in this respect.

For instance, a concessionaire would lose money, normally, on every five cent candy bar at a drive-in operation. Therefore, if he doesn't want to sell a five cent bar, he is entitled to sell one for 10 cents. Again, there might be a food item an independent operator in different circumstances might sell without profit (and without too much damage to his profit structure), but that the theatre concessionaire could not sell without incurring a serious economic risk.

Continued on Page 78

CONVENTIONAL THEATRE refreshment stands can benefit by following the same basic merchandising rules as drive-ins. Note self service ice cream unit.

THE BEST BUYS IN CANDY BARS

...For You and Your Customers

Here's a great line of top-quality bars in the 10¢ class . . . a balanced line with a bar to satisfy every taste . . . a fast-selling line priced to give you a margin that assures top profits. Packed 60's. *Big new Milk Shake 15¢* size also packed 60's. And for the "small fry" market Payday, Milk Shake, Butternut, Smooth Sailin' and Zero are also available in the 5¢ class; packed 120's. Investigate!

NOW ADVERTISED COAST TO COAST
on ***DICK CLARK'S American Bandstand***

. . . televised from 110 stations of the ABC-TV Network, plus continuous spots on many other key TV stations . . . reaching more than 20,000,000 hungry teen-agers and many millions of flavor-lovin' fans in nearly all other age groups.

ONE OF THE BIG 3 IN CANDY BAR SALES

Hollywood BRANDS, INC.

Manufacturers of the nationally advertised *Balanced Line of Best Sellers*

CENTRALIA, ILLINOIS

Hot Food For Hungry Patrons

Soup and Other Canned Hot Foods Are Big Profitmakers, Dispensed Quickly By Attendants or Automatic Vendors

■ THEATRE OPERATORS may very well want to consider the installation of automatic hot food facilities as a way of adding extra profits. At the outset, it is admitted that the theatre owner is not a restaurant operator. He's in the business to show moving pictures; to get the biggest box-office attractions he can and to exhibit them with the greatest showmanship at his command. However, automatic hot food facilities may provide the profit edge he's been looking for, may help to make his theatre unique in its area and stir up some free word-of-mouth advertising among his patrons. Certainly, recent developments both in automatic dispensers and in methods of packaging make it an area worth investigating.

Automatic hot food merchandising is a field that has been growing by leaps and bounds. Vending machines—that is, the coin-operated machines—dispensed over $2 billion worth of products in 1958. According to S. W. Cobourn, Manager, Institutional Sales, Campbell Soup Company, 1959 should be the best year yet, with the greatest proportional gains coming in the hot food vending field.

Quick Attendant Service

Automatic hot soup ovens—those that are operated by an attendant who pushes a button and serves the soup — are finding increased use in counter service and at snack bars. The newest addition to this field is that made by Le Bron of Omaha, Nebraska. The model shown here handles 54 cans of eight-ounce soups and comes with a flashing sign that serves as a constant reminder to the theatre patron that hot soup and food is available. The Le Bron automatic oven occupies only one-and-one-half feet of valuable back bar space, and can be easily handled by theatre refreshments stands selling soft drinks, pop corn, candy, and cigarettes.

Loading, care, and maintenance are extremely simple. The eight-ounce cans are dropped into the top of each rack, and then roll into the vending position. A thermostatic control produces cans heated at 150 degrees. The oven needs little lubrication and is easy to clean. The person behind the counter can serve up a can of soup in less than 20 seconds and it eliminates the need of a hot cup dispenser. Such an oven costs in the neighborhood of $80. Full information is available through local Campbell Soup Company sales representatives.

As in any automatic process, speed is the essential thing. The customer points to the soup he wants and the operator presses the button. The soup can be eaten out of the can or served in any container the operator or concessionaire cares to provide. The usual price is 25 cents for a can of soup, and this includes the use of containers and plastic spoons. Certainly a case for such an installation is that the sale of hot soup or food available greatly rounds off a theatre concession for the patron who wants more than coffee, popcorn and candy, and doesn't want to leave the theatre to get it.

ABOVE, the 54-can Le Bron oven for soups; below, Campbell's eight-ounce packages well insulated.

Vending Machine Service

Another area the theatre owner may want to investigate is the coin-operated vending machine. Hot food vending is actually an infant industry. The first machines went into operation early in 1956 and, according to one authority, their use more than doubled in 1957. An idea of their wide application may be obtained from this statement by Mr. Cobourn: "Hot food vending may be the infant of this $2 billion industry, but it's about as robust and fast a growing an infant as any business man can hope to see. Machines which vend hot soups and other canned foods are today in use in such varied locations as bus terminals, airports, offices, ships, country clubs, ski resorts, and mobile lunch canteens." Besides soups, hot food machines now vend Chili con Carne, Pork and beans; Chinese and Italian foods such as spaghetti and meat balls; and a variety of stews. Vending operators set the prices. Soups usually sell for 15 or 20 cents, other hot foods slightly more.

Merchandising Research

In connection with this last, another point that should be covered for the theatre operator contemplating hot food automatic merchandising is the successful research done by the Campbell Soup Company to lessen the amount of heat felt by a person when he touches a hot can of soup that has just popped out of the oven or vending machine. Campbell has developed an inner liner positioned between the can face and the outside regular label. This liner has insulating properties which reduce the conductivity of the heat from the heated can through to the "touch" of the holder's hand. The new insulating liner is being applied to Campbell's eight-ounce soups and other products—Pork and Beans, Chili con Carne, Beans 'n Franks, and the new Franco American Spaghetti with ground beef.

It is hoped that this survey of the recent developments and innovations will spark the imagination of theatre operators about the possibilities that exist in automatic hot food merchandising. Imagination is certainly the key word here. for a lot will depend on where the machine is located and how intensely the hot food facilities are promoted with moviegoers. In any case, automatic merchandising is here to stay and it's moving in one direction—up. It is the individual theatre operator who must evaluate just how this "infant" may help his profit picture become a brighter one.

WANT MORE CASH?

BERLO CAN GIVE IT TO YOU WITH NATIONAL KNOW-HOW *plus* LOCAL SERVICE

BECAUSE ABC IS THE LARGEST

operator of indoor and outdoor theatre refreshment services in the nation, you get all the big-organization advantages of

A • tried and tested merchandising techniques
B • trained and supervised sales help
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BECAUSE ABC HAS 31 BRANCH WAREHOUSES

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ABC DELIVERS THE HIGHEST PER CAPITA SALES IN THE ENTIRE ENTERTAINMENT FIELD—MAKE IT WORK FOR YOU!

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ALTOONA, PA.
ATLANTIC CITY, N. J.
BALTIMORE, MD.
CHARLESTON, S. C.
CHARLOTTE, N. C.
CHATTANOOGA, TENN.
CINCINNATI, OHIO
CLEVELAND, OHIO
COLUMBUS, OHIO
CUMBERLAND, MD.
DAYTON, OHIO
FAIRMONT, W. VA.
FT. WAYNE, IND.
HAGERSTOWN, MD.
HARRISBURG, PA.
LIMA, OHIO
MIAMI, FLA.
NEW ORLEANS, LA.
NORFOLK, VA.
PHILADELPHIA, PA.
PITTSBURGH, PA.
RICHMOND, VA.
ROANOKE, VA.
SCRANTON, PA.
TAMPA, FLA.
WASHINGTON, D. C.
YOUNGSTOWN, OHIO

Popcorn Merchandising Program

A New Approach To Selling Popcorn In Theatres Is Paying Off With Increased Sales, Better Profits

By Patricia M. Ippolito
Manley, Inc.

■ Popcorn sales in theatres have been declining faster than ticket sales ever since 1949. In that period, the sale of popcorn represented 70 per cent of concession stand intake. Now, a recent check shows that popcorn in a majority of theatres grosses a low 40 per cent of stand business. A nine-cent per person average on all stand items in the 1949 period has today in some cases increased as high as 25 cents per person in indoor theatres and one dollar per person at drive-ins.

The popcorn industry has been unable to stop this transfer of sales in the theatre field because there has been no coordinated merchandising program such as that used by candy, soft drink, and other manufacturers.

To help change this decline in popcorn sales, Manley, Inc., has developed a merchandising program in order to furnish the theatre industry with new basic tools needed to sell more popcorn to more people. This is accomplished through the use of new equipment and a co-ordinated merchandising and quality control program.

Eight years of tests in theatres scattered across the country show increases of as much as 60 per cent in popcorn sales. The test locations use Manley popcorn machines, supplies, and point-of-sale promotional material. The Manley formula has increased per ticket sales of popcorn in every theatre in which Manley's Theatre Merchandising Program is in effect. The success of this Program is based on suggestive selling. A nation-wide sales force of Manley promotion supervisors continually trains and stimulates theatre personnel to obtain maximum sales and profits for theatres.

This suggestive selling calls for actual work at the stands by the Manley supervisors, frequent concession personnel training, and the use of pre-tested promotional display material. The result is greater enthusiasm at the stands, higher total concession sales, more efficient use of equipment, less waste, and higher per ticket sales.

Such a profit picture is achieved with new equipment, without investment by the theatre. Manley, Inc., as part of its Popcorn Merchandising Program for theatres, furnishes the following:

1. New popcorn machines and concession equipment at no charge.

2. Provides operating supplies, popcorn, seasoning, salt, and containers to the theatre's specification.

3. The promotional sales force of Manley calls on each theatre regularly, trains concession personnel in preventive maintenance and cleanliness. Concession stand personnel is instructed in popping and sales techniques, merchandising, use of display advertising, related item selling in customer relations, all within the limitations of house policy. They apply their knowledge of theatre concession business to an over-all merchandising effort with emphasis on popcorn rather than on popcorn alone. Tie-in sales are encouraged. Physical inventories are taken and stock properly rotated.

4. Film trailer advertising on both popcorn and general concession merchandise is furnished as needed, as well as seasonal point-of-sale advertising. For drive-in concessions, tape recordings are furnished for use at the manager's discretion.

New equipment and trained concession personnel, stimulated by Manley's merchandising sales force and planned monthly pre-tested promotional campaigns, result in a greatly improved profit to the theatre.

THE MANLEY CONCESSION MERCHANDISING PROGRAM is seen in action at these theatre stands. Monthly, pre-tested point of sale material is designed to increase popcorn and general stand sales.

Promoting Good Coffee

The Coffee Brewing Institute is Conducting a Contest Which Offers Excellent Publicity for Theatre Stands

■ As the largest selling item in the public feeding industry, coffee occupies a unique position. Properly handled, it can be used to draw customers to ensure their continued patronage. Improperly handled, a poor cup of coffee can spoil the finest meal.

Purpose

Bearing this fact in mind, and knowing also that coffee prices are at their lowest level in eight years, many food operators are endeavoring to improve the quality of the coffee that they serve. One of the difficulties in achieving this aim has been to determine what constitutes a good cup of coffee and to develop a method of objective measurement.

By using a technique developed by The Coffee Brewing Institute, it is now possible to measure coffee served to a customer and know whether the brewing procedure used has produced the most desirable cup of coffee attainable with the blend used. Using this system, a contest has been developed which is designed to provide competition among managers for the distinction of serving the best possible cup of coffee.

Benefits

1. Properly run contests improve employee morale and quality standards.
2. Management will be provided with objective appraisal of the quality and consistency of coffee being served, as well as information for correction and improvement, if that should be necessary.
3. Winning situations receive a "golden cup" symbolic of coffee beverage excellence for display purposes and on-the-spot publicity.
4. Suggestions for advertising, publicity, and promotional tie-ins will be provided.

Golden Cup Contest

The "Golden Cup Contest" is designed to encourage the production and service of the finest coffee beverage possible in feeding establishments throughout the country. This is not a contest in the usual sense of the word, where there is one winner and a number of runners-up.

There is no competition between entrants. Instead, each contestant strives to meet a standard of coffee brewing excellence set up by The Coffee Brewing Institute. All those who do, become winners and are awarded a handsome "Golden Cup" wall trophy. The contest can be entered at any time, or as often as desired.

Contestants will submit samples of the beverage to be judged. Each will be subject to a soluble solids analysis test. To win, the samples submitted must fall within the ideal area established on the Institute Brewing Control Chart. Cleanliness will also be a factor in choosing those eligible for the award.

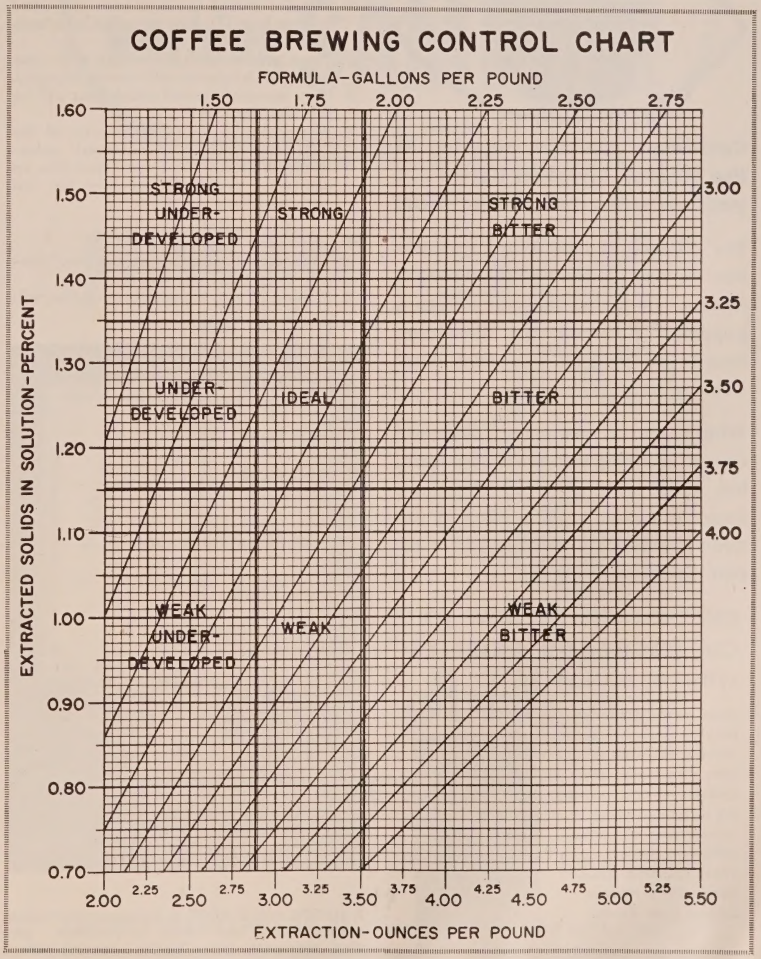
The Institute will supply contestants with brew sample kits for $6.00 each. This fee covers the processing of samples, the plotting of results on a graph, and recommendations for improving brewing procedures, if necessary. Check lists will be provided free of charge.

Supervisors of establishments competing will collect samples and check procedures at unannounced times. Samples must be taken from each set of equipment during each shift. Sampling is accomplished by drawing off two ounces of thoroughly mixed, brewed coffee into a bottle, which is forwarded to the Coffee Brewing Institute for processing.

Supplementary materials which have been prepared by the Institute and offered at cost to contestants include an announcement flyer to personnel which can be posted on bulletin boards, table tents for distribution at competing establishment, wallet card certificates for presentation to individual members of brewing staff winning, and "Golden Cup" cigarette lighters, which may also be distributed to individual staff members. Results can be made public or be restricted to those competing, at the contestants discretion.

General Rules

1. In chain operations, the contest should be limited to branches under the supervision of one division manager.
2. Supervisory personnel must be strictly impartial.
3. Before the contest begins, each competing manager should have the opportunity to learn the principles of proper coffee brewing.



THIS is The Coffee Brewing Institute's quality control chart. Golden Cup Award contestants must submit samples in the ideal range of the chart to be eligible to win.

4. Contest rules should be prominently displayed.
5. If the name of The Coffee Brewing Institute is used, or reference is made to the contest in advertising, publicity or promotional material, copy must be approved by The C.B.I.
6. Brew sample kits will consist of a mailing tube, two (2) 2 ounce sample bottles, two (2) information sheets to be filled out when samples are taken, and a C.B.I. addressed sticker for mailing purposes. Kits will be supplied by C.B.I. at $6 each. This fee covers processing of samples, plotting of results on a graph, and recommendations for methods of improving procedure.
7. Check lists will be provided by C.B.I. at no charge.
8. Golden Cup publicity materials may be used by all contestants for the duration of the contest. These can be purchased from C.B.I. at cost. Winners may use them for an additional 60 days.

Testing Rules

These rules should be displayed for personnel:

1. Contest will run two (2) weeks, (date) to (date).
2. Samples will be collected and checking conducted by supervisors at unannounced times.
3. Checking will consist of a brief examination of brewing and serving equipment for cleanliness. Results will be reported on a check list. Failure to achieve the proper results will disqualify the contestant.
4. Sampling will be done by drawing off two (2) ounces of thoroughly mixed, brewed coffee into a bottle and forwarding it to C.B.I., where it will be processed. To win, all brew samples must register in the "ideal" area of the brewing control chart.
5. Samples must be taken from each set of equipment during each shift.
6. Samples should not be taken until after at least four (4) cups of coffee have been served from the equipment.
7. There can be multiple winners. In case of ties, each winner will receive a trophy.
8. Brew sample kits and check lists will be provided by C.B.I.
9. When possible, a representative of the C.B.I. will visit the contestant, unannounced, during the contest and take an additional sample or samples for test purposes.

Awards

1. Winners will receive "golden cup" trophy from C.B.I. for display.
2. Employees who actually brew coffee, will receive wallet cards from C.B.I. attesting to their skill in coffee making.

A HANDSOME PLAQUE is presented to winning establishments for point-of-purchase display, promoting their "ideally" brewed coffee.

Promotion Suggestions

1. Announcement letter should be sent to each manager explaining the purpose of the contest, the rules, and the benefits to be derived from it.
2. A flyer has been prepared, suitable for bulletin board posting, giving the rules and prizes.
3. Each manager should call a meeting of employees to discuss the contest thoroughly, enthuse the employees, and answer any questions they may have.
4. Representatives of coffee supplier and equipment manufacturer should be contacted for assistance before and during contest.

Awarding Prizes

1. Prizes will be presented to winner by the C.B.I. This can be done at a general meeting or directly at the winning establishment.
2. Local newspapers should be notified of presentation.
3. Pictures and stories should be sent to trade newspapers and magazines.
4. If there is an advertising program, reference should be made to the contest and the winner.
5. Top management should recognize the winning manager and supervisor, by means of an appropriate award. This can be in the form of a congratulatory letter from a top official or whatever is deemed most satisfactory.
6. Consideration should be given to having the winner appear on radio and television locally or nationally (if practical).

Follow Up

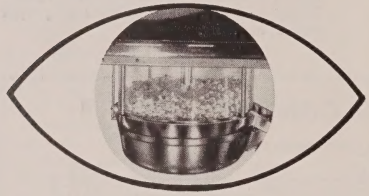
1. Trophy should be prominently displayed where customers may see it.
2. Losers should follow the recommendations of C.B.I. and then re-test their coffee to see if proper standards are being met.
3. Winners should be encouraged to refer to the "Golden Cup of Coffee" when asking patrons for beverage selection, or offering a second cup.
4. Advertising tie-ins may be developed with coffee supplier and equipment manufacturer.
5. Distribute questionnaires to customers of winning establishment and those in similar (but losing) one, to see if they are aware of the difference.
6. The contest can be repeated in three or six months to determine the amount of improvement in the various branches.

Tips To Contestants

In particular, pay careful attention to the following points:

1. Be sure equipment is clean.
2. Start with boiling water.
3. Spread coffee evenly in filter device.
4. Never brew less than 2/3 capacity of the equipment.
5. Use between 2 and 2½ gallons of water to each pound (16 oz.) of coffee, or the equivalent in larger or smaller batches.
6. Never repour brewed coffee through used coffee grounds.
7. Remove grounds as soon as brewing is completed.
8. Be sure brew is thoroughly mixed.

You **SELL** because they **SEE!**



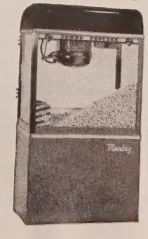
Customers see corn popping in the Manley VistaPop Kettle . . . you see sales and profits soar!

The all new Manley VistaPop Kettle has the new, exclusive "see-through" feature. Customers see their own corn popping. Appetites are stimulated. Impulse buying goes into action. Your sales go up.

What's more, new "hot air-conditioned" warming pan keeps corn fresh, hot, crisp . . . delicious. No more soggy popcorn. You produce a top quality product that pays off in repeat sales!

GET THE FACTS ON HOW YOU CAN **INCREASE PROFITS** WITH THE MANLEY Vista Pop

Write Manley today for complete details on how the VistaPop can mean new sales, more repeat sales, greater profits for you. Or ask to have a Manley representative call, without obligation. Manley, Inc., 1920 Wyandotte Street, Kansas City 8, Missouri. Address Dept. EX-459



Cleanliness Is the First Principle

Profitable Refreshment Selling Calls For Well Groomed Attendants, Spotless Stands

■ ALTHOUGH IT IS ALMOST universally recognized in the industry that cleanliness at the theatre refreshment stand is essential to profitable operation, the cleanliness and the appearance of the attendants too frequently is neglected, especially in that it pertains to everyone connected with the preparation and serving of food and drink.

Turning to the psychology of the customer for a moment, a stand presided over by an attendant attractively groomed, alert, and smiling is often the most effective sales argument that can be presented. To achieve this, the attendant need do nothing more than pay careful attention to generally accepted standards of personal cleanliness.

Personal Cleanliness

Fully realizing the value of this, management should develop a routine which will make attendants' observation of cleanliness automatic. Before going on duty, an attendant should be certain he or she has not overlooked any of the four "musts":

1. Well Washed Hands—Thorough soaping and plenty of hot water should be used. The finger nails should be clean and as well manicured as possible. Female attendants should not use nail polish except that of the clear variety.

2. Neat Hair—While it is important that attendant, male or female, present an attractive appearance, long hair should be discouraged and ill groomed hair not tolerated. Stray hair in food means lost customers. Loose hairs lose sales.

3. Spotless Uniform—Although the uniformed attendant is not regarded as essential, it is recognized more and more often today that the uniform is a highly desirable adjunct to the operation. It imparts a more professional air to your refreshment operation, among many other advantages. However, the uniform is a wasteful expense to you unless it is clean at all times. Dirty, it is nothing better than offensive. Non-uniformed attendants must take even more care of their apparel.

4. Clean Face—Regardless of a female attendants' ideas about cosmetics, you must insist on moderation in their use. A well scrubbed, wholesome face on male or female attendant is likely to perk up customers' appetites.

Carelessness or disregard for these simple, elementary, and by no means comprehensive rules usually results in lost profits and prestige. The slovenly appearance of an attendant is a blatant advertisement of mediocre or even poor quality preparation and service, no matter how good your merchandise.

Extra Profits can best be described as "extra efforts." No theatreman has a right to expect his refreshment operation to return its healthy potential without giving careful consideration to every detail. While he must, of necessity, expend much effort in other directions, he *cannot afford* to neglect the very first principle of his operation: absolute cleanliness, not only of personnel, but of all equipment and the facility itself.

With respect to cleanliness of equipment, all personnel should be instructed carefully in preferred maintenance procedures, either those provided by the manufacturers, or those developed independently by the operator as the best suited to his particular needs.

The fact that a certain unit for the preparation of food is not on display to the public is all the more reason for its careful maintenance. Needless to say, those units in the limelight must never be allowed to show anything but absolute cleanliness, in use or not.

In conclusion, cleanliness of the refreshment stand is synonymous with profitable and successful operation, without exception.

try a FREE working SAMPLE!

popsit plus! will bring more profit to the most profitable concession in your theatre!

America's finest popcorn seasoning imparts rich butter-like flavor...and color!

PROVE IT NOW!

We'll send you a working sample, free for the asking!

SIMONIN • PHILADELPHIA 34, PA. *popping specialists to the nation*

MERCHANDISING

Continued from Page 70

An example of the foregoing can be found at the Shipyard Drive-In, Providence, R. I. Here, we offer chicken-in-the-basket at 75 cents, a price at which no concessionaire could make money. However, operating this stand as exhibitors, we wish to make this offer to induce patrons to come early for dinner. In this case, the price of the product is feasible for the exhibitor.

Advantages of Concessionaire

Certain advantages in the concession operation are obvious. The concessionaire has comparative figures on a wide range of operations which the exhibitor can never have. Also, the concessionaire has operating formulae derived from experience specifically in the theatre phase of the concession business. With these, he is likely to be more progressive in the sense that he is quicker to institute advance methods. Generally speaking, the concessionaire has to have better control of the operation than an exhibitor, in order to minimize losses.

Of course, a concessionaire's formulae, if available to the independently operating exhibitor, would be helpful; however, it would be next to impossible to base these formulae, if made available, on the current record. Instead, they would be the result of past performance not necessarily applicable at the present time.

An example is buttered popcorn. It was first merchandised in theatres by the big concession concerns, which proved it a potential success in a few situations. All this while the independent sat back and waited for the outcome.

The concessionaire today has to "spend money to make money." He is quicker to put into operation proven new equipment, ideas, and items. He has to, or he becomes guilty of stagnation. The right concessionaire is never complacent, he never says he is satisfied with either gross or net.

PHILIP L. LOWE

Responsibility

A concessionaire's job is to sell food; the exhibitor's to sell entertainment. The concessionaire's position for the sale of entertainment, it must be recognized, is not one of responsibility, but of cooperation. The direction of the concessionaire's activities in the field of entertainment should come from the theatreman. The concessionaire is obliged to do a good, honest job, but the exhibitor must lead him, not expect him to sell films.

The concessionaire has responsibility also to develop new equipment and new items. He researches the field in a way that the independent, with his other responsibilities, normally does not. It is this phase of the concessionaire's activity which has made his field the tremendous business it is today.

Merchandising New Items

In selecting a new line or item to carry at the theatre stand, both independent and concessionaire should follow the rule-of-thumb that it should have a reasonable initial cost and a reasonable labor cost, the two combined not exceeding the current average for a similar item.

Also, it must be determined whether the new item will create more sales, or whether it will compete with an item presently sold to the detriment of each. Most important, it must fill a need. Although the concessionaire wants to offer maximum variety, it must be a practical, workable variety of the kind that does not burden him with so many individual items that he cannot do a good job of promoting any of them. In addition to creating sales, the new item should be a higher unit sale. "Meatless" frankfurters, for instance, are not a practical stock for the concessionaire because they are normally sold only on Friday. An exhibitor may sell them, however, as an accommodation, even though he may suffer losses through spoilage due to overstocking.

Again, in selecting a new item, it is important to make sure that the existing refreshment stand operation has sufficient facilities for its preparation, sale, and merchandising, and that new equipment, if it must be acquired, is practical from an economic and space standpoint. French fries are an example of this. They are a big seller and a good profit item. They are generally non-competitive with existing items. But, they do require a great deal of preparation and storage equipment, and incur additional labor costs. You may well find in analyzing the introduction of a new item that you have to take the bitter with the sweet, and that the decision cannot always be made on a clear-cut basis.

There are three methods which must be tried in launching a new item at the theatre stand. They are:

1) A good trailer, preferably animated and in color.
2) Sampling: this is an often-neglected device which can pay off. Offering a sample of some kind is extremely important.
3) Verbal and physical merchandising, such as announcements, tapes, signs, and special point-of-purchase display, if possible.

Cafeteria vs. Station System

It seems to be pretty well agreed today that the cafeteria system does not belong at every drive-in and it is, as yet, unproven in the conventional theatre.

The proponents of the station system claim that they can take in as many cents per person as is customary with the cafeteria system, and without investing in costly *display* and *serving* equipment. (Both systems require approximately the same investment in food *preparation* equipment).

Those who favor the cafeteria system grant that this is possible, but only, they say, with an exceptionally well trained personnel who make up in suggestive selling what has been lost through lack of display. Personally, I favor the investment in *serving* equipment because it is a proven method of achieving success.

For either system, expert advice in design and layout, and in research and development, also are essential. Neither system is a haphazard one. Originality and progessiveness long ago proved that they pay off, and a good case in point in the "Caferama" at the Shipyard Drive-In. Here, the architect came up with the idea of a circular cafeteria building which, through its shape and name, became the focal point of the theatre operation.

It remains to be reemphasized, however, that even with the best setting in the theatre refreshment business, you have nothing without good food at a fair price. The basic premise to be considered, indoors and outdoors, independent or concession, is that the operation be the best possible in conception and kept the best possible in operation.

Best in the house for your thirsty patrons. These 4 Lily* cups make your refreshments a sell-out! **1. Theatre Design Cup.** Sells your movies as well as your refreshments. Perfect for all cold drinks. Six sizes . . . 7 to 18 oz. Each size in different color. **2. Popcorn Cup.** World's first oversized cup made especially for popcorn vending machines. 24 oz. Leakproof for buttered corn. **3. China-Cote* Cup.** Engineered to fit all coffee machines using cold drink type (785) dispensers. Tall shape. 6 oz. Other hot cup sizes: 7 oz. to 16 oz. **4. Redleaf Design Vending Cup.** Perfect for vending all cold drinks. 6, 7, 9 and 10 oz. sizes.

For more information, write: *Lily-Tulip Cup Corp., Dept. TC9, 122 East 42nd St., New York 17, N.Y.*

*T. M. Reg. U. S. Pat. Off.

New Products Review

Some Thumbnail Descriptions of Selected Products Which Have Interesting Possibilities for Theatres

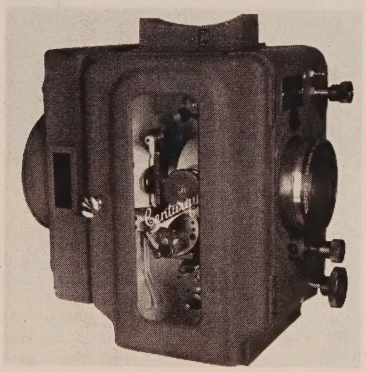
PROJECTION AND SOUND

New Century Mechanisms

Century Projector Corporation has been marketing for the last year a new line of Century projector mechanisms which take the place of the Model C and Model CC units. The new mechanisms are the Model H (single shutter) and Model HH (double shutter).

The simplicity, sturdiness, and long life features of the former Model C and Model CC mechanisms have been retained, it is reported. The new mechanisms include advances and improvements developed for such media as Cinerama, Horizontal VistaVision, and Cinemiracle.

Incorporating as standard equipment many new features, the Models H and HH are patterned on mechanisms designed for non-standard film widths, and can therefore be modified for use with wide films, whenever such films are available commercially, it is said.



CENTURY MODEL H MECHANISM

70 mm Reels

Goldberg Brothers recently introduced 22-inch diameter cast aluminum reels for 70mm projection. These reels have a seven-inch hub, one half inch core, and four holes located on the side of the flange for pin driving. Each reel holds approximately 2,400 feet of film.

Also available is the same cast aluminum reel for 35mm, with 70mm adapter attached solidly. The 35mm reel has a 16⅞ inch diameter, five inch hub, and has four holes located on the side of the adapter for pin driving. This unit holds approximately 2,700 feet of film.

Hertner Transverter

Good screen light is noticed and long remembered by theatre patrons. One means of achieving this is the Hertner "HH-125" Transverter, which is designed to supply the properly corrected direct current for projection arcs operating nominally at 75 to 125 amperes, 42 to 65 arc volts. Built-in close control results in a clear flickerless white light with complete absence of ripple, it is said.

The complete unit consists of motor generator, separate wall mounted control panel ("Type G" illustrated), separate dual ballast rheostat, and separate motor starter for greater installation flexibility.

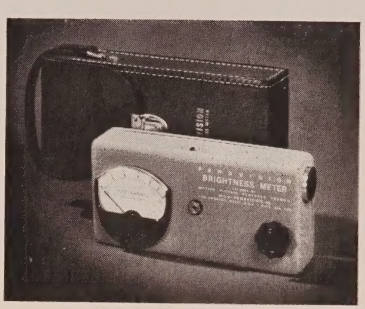
Micronic Light Control

The new Ashcraft Micronic Light Control for the Super Cinex projection lamp is a precise device for exact maintenance of the carbon crater, which is the source of light, at a predetermined position from the elliptical reflector used in the Cinex. It maintains light level and the distribution of light over the screen surface with unvarying accuracy, it is said, yet the values may be changed immediately by the operator. Complete technical details can be secured from the C. S. Ashcraft Manufacturing Company.

Screen Brightness Meter

The Panavision Brightness Meter, licensed for manufacture by the Motion Picture Research Council, Inc., is said to represent a new high in versatile and foolproof design in light-measuring instruments. Its small size, light weight, and attractive price put it within reach of all exhibitors to test theatre screens regularly for brightness, gain, and brightness distribution.

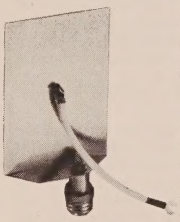
The meter's primary function is the measurement of brightness as expressed in "foot-Lamberts," but by plugging in a photo-electric attachment, incident light may be measured directly in "foot-candles." The use of the Panavision unit provides an objective analysis of conditions which can be determined only with a brightness instrument.



PANAVISION BRIGHTNESS METER

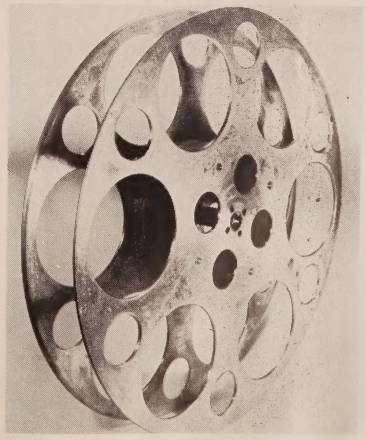
Kneisley Sil-Tubes

The Kneisley Electric Company, in extending its comprehensive line of Sel-Tube (selenium) and Sil-Tube (silicon) Conversions, has announced the addition of Sil-Tubes for Exciter Lamp Supplies which now employ five and six ampere, half-wave, gas-filled tubes.

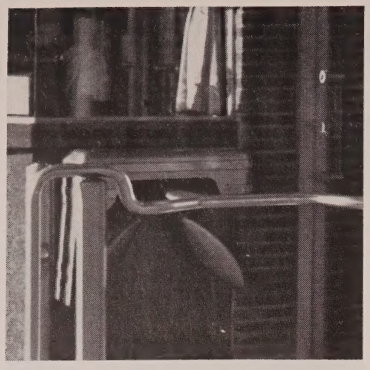


These units are designed in such a manner that you simply remove the gas-filled tubes and screw the Sil-Tubes into the same sockets. A minor adjustment in the voltage connections is required due to the increased efficiency of

HERNER TRANSVERTER CONTROL PANEL



GOLDBERG 70mm REEL



PEREY TURNSTILE SYSTEM

silicon over gas-filled rectifier tubes.

The manufacturer states this to be an excellent application for silicon as the load is a straight resistance load, not subject to voltage transients or current surges.

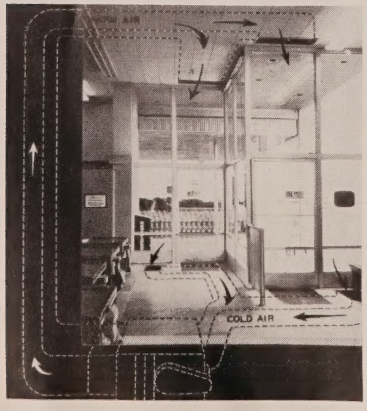
Silicon has the advantages of lower power consumption with efficiencies upward of 98 per cent, is guaranteed to be non-aging, and is hermetically sealed against moisture. It is expected that silicon will have an almost unlimited life in this application, it is said.

MANAGEMENT

Economy For Suburban Theatres

Suburban and neighborhood exhibitors seeking new ways to reduce overhead have incorporated successfully a turnstile system of admissions which eliminates the expense of a doorman-ticket taker. This system handles peak crowds efficiently, automatically records transactions, and is said to be so accurate that it is acceptable to the Internal Revenue Service for tax purposes.

A separate register is used to record children's admissions; thus, adult admissions can be calculated exactly by deducting the total of children's admissions from the total figure on the register. Changes in admissions are simply handled by taking a reading of the number of admissions at the time of the rate change. The Perey Turnstile is always a two-way type for exit in case of emergency.

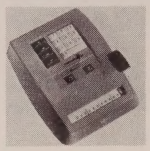


"DOOR BLANKET" SYSTEM

Theatres adopting the Perey system, in addition to cutting doorman payroll, also eliminate ticket manipulations and pilfering by the cashier and the cost of ticket machines and ticket boxes, assuring a reliable count on admissions even in the event of absentee management, it is said.

Pocket-Size Calculator

A 10-key "personal calculator" that adds, subtracts, multiplies and divides, yet weighing only six pounds and priced modestly, has been introduced by the Bohn Duplicator Corporation.



The BDC Contex is manually-operated, but has no "handle" in the ordinary sense. Its actuating bar is similar to the motor bar on electric machines. It is depressed with the palm of the hand, without removing the fingers from the keyboard. The patented actuating principle that makes this possible also enables the BDC Contex to attain speeds that equal or exceed those of electric machines, it is said.

It has a capacity of ten digits entered, eleven total. Standard 10-key operation is used. Sub-totals are shown at every step, and subtraction is direct. The BDC Contex was developed to provide calculator convenience and efficiency at a price justifying its use on every desk. With an over-all size of 10 by seven by 3½ inches and its six-pound weight, it can be carried in a briefcase.

Floor Sweeper

A labor-saving, 66 inch floor sweeper for large areas in and around concession stands and other areas of the threatre offers tremendous saivngs in man hours, according to the manufacturer, Thompson and Sons, Inc.

The frame of the "King Speed Sweeper" is steel tubing plated with copper, nickel, and chrome. The side pieces extend to form two handles at a convenient operating height and cross pieces and side braces give the unit great strength, it is said. The bottom of the frame is in the shape of a wide, flattened "V" to which is tied the dry mop.

In use, the operator merely pushes the sweeper. The ball bearing wheels do away with all friction or resistance. The weight of both the unit and the operator is supported on the wheels.

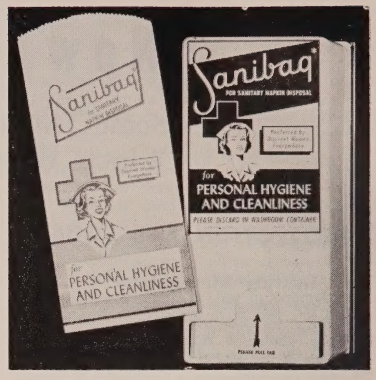
New Stair Tread

The development of a long-wearing stair tread with a molded nose has been announced by American Mat Corporation. The tread, which presents an attractive diamond design, is produced of Do-All rubber and cord compound. It will be available with either rounded or square nose. Black in color, the treads are one-quarter inch thick and come in widths up to 36 inches. Maximum depth is 24 inches with a standard depth of 12 inches. A 36 inch by 24 inch landing mat of the same material and design is being distributed for use with the treads.

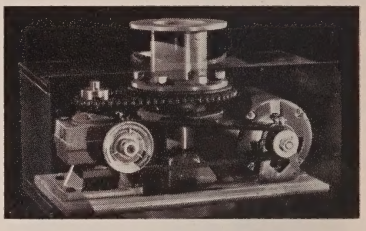
Sign Rotator

A completely new, low priced rotating assembly called "Roto-Mount" has been introduced that is designed to handle signs up to 45 square feet and can run continuously. In addition to providing a new economical means for the installation of new rotating signs, conversion of existing stationary signs can be accomplished rapidly through one simple weld, it is said.

Roto-Mount uses a one-quarter horsepower motor with a heavy duty gear box and chain drive. The entire unit is contained in a heavy gauge metal box approximately 19 inches by 10 inches by 10 inches.



SANIBAG AND DISPENSER



ROTO-MOUNT ASSEMBLY

"Door Blanket" System

Dunham-Bush engineers have developed a "door blanket" air system using one of their "HU" heating and ventilating units to eliminate cold drafts where entrance doors must open and close frequently, even in cold weather.

These HU units supply air through a duct to a grille above the door and blanket the door opening with heated air; the air is pulled back to the unit from floor grilles located within the theatre on both sides of the entrance. This flow of air acts as an insulation medium, eliminating cold drafts and maintaining an even temperature inside the theatre.

Since the entire system is designed to be unobtrusive, the entrance is unchanged.

Sanibag Dispensers

A means of eliminating costly plumbing repair bills which frequently result from the disposing of sanitary napkins in theatre toilets is offered by Melro. This concern is marketing the Sanibag, which is supplied in an attractive, self dispensing box. The inexpensive Sanibags are neat and hygienic, and can be disposed of with their contents in the theatre's washroom waste container. Two dispensers and 100 bags are available for a nominal sum as samples. The manufacturer states that for less than three quarters of cent per Sanibag, plumbing bills of as much as $10 can be saved with this service.

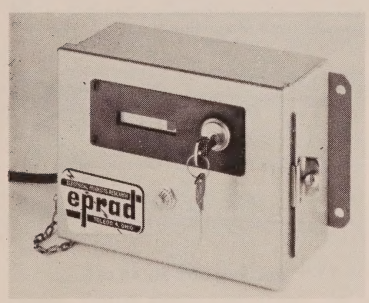
FOR DRIVE-IN THEATRES

Litter Bug, Jr.

A new, lower-priced Litter Bug with narrower pick-up, designed for smaller requirements and tight spaces, has been announced by Mid East Sales Company, manufacturer of the original Litter Bug now widely used in drive-ins. Known as the Litter Bug, Jr., the new model offers the additional feature of rubber-tired casters on the pick-up housing to prevent scraping the surface being cleaned. It has a 24-inch wide pick-up, as compared to 30-inch for the larger model, making it ideal for cost and maneuverability on small premises, where only intermittent use is necessary, or for tight spaces and narrow aisles, it is said.

Accounting Systems

EPRAD, Inc., has announced a completely re-designed and field-proven counting and boxoffice accounting system line. The theatre owner may specify any or all of these EPRAD features: tabulation of the number of cars through each boxoffice; total cars entered through all boxoffices; counter which deducts



EPRAD ACCOUNTING DEVICE

cars leaving theatre, thus providing an actual cars in the theatre count; tabulation of transactions of each boxoffice; and total boxoffice transactions. All counters are key reset so only the supervisor can clear the count. System is sold complete with switch mats made of Neoprene rubber bonded to a Thixon coated steel plate.

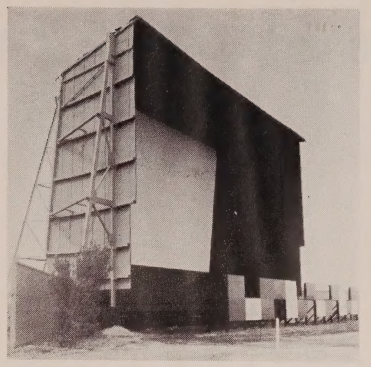
EPRAD Model #22125, illustrated, counts cars that enter a theatre having one boxoffice and two entrance lanes.

Motiograph Speaker

Beauty of design is coupled with high fidelity quality sound in a new high impact plastic in-car speaker introduced by Motiograph, Inc.

The shock-proof construction resists breaking, chipping, and denting of the housing, and assures long service and lasting beauty, it is said. It will withstand rough handling and abuse that would quickly incapacitate and destroy the appearance of a die cast aluminum housing, and the finish is unaffected by sun, rain, snow, or high or low temperatures. The use of high quality components assures faultless performance.

Measuring six and one half inches high by four inches wide, and two and three-quarter inches deep, the speaker is equipped with a convenient handle for ease in handling. The hanger is shaped to fit practically all makes and models of junction boxes.



TWEEDY SCREEN

Traffic Paint

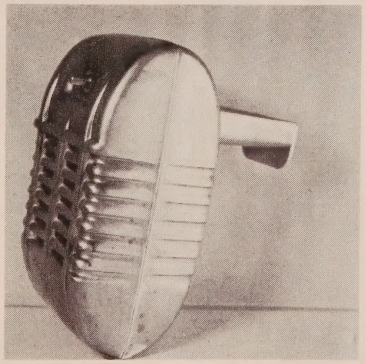
A tough new traffic paint said to provide brilliant, long-lasting traffic markings on asphalt, macadam, concrete, cobblestone, and tarred road surfaces common to drive-in areas has been introduced by the Consolidated Chemical and Paint Manufacturing Company, Inc. Tests reveal the new enamel provides markings comparable in brilliance to costly beaded traffic paints and, at the same time, affords far greater resistance to wear and abrasion, it is said.

New "Jet-Dri" has been tested for road wear and driver visibility. Applications reveal the product retains its high lustre and bright color under consistently heavy traffic conditions. Unlike conventional traffic paints which require complicated bead mixing procedures, new Jet-Dri is applied in one operation, affording substantial cost and time savings. Because it dries in minutes, truck and auto tires leave no imprint on Jet-Dri surfaces.

"Shadow-Box" Screen

The El Mag Screen System, developed by the Tweedy Screen Corporation, makes it possible for drive-in exhibitors, especially those in daylight saving time areas or those located in the extreme portion of a time zone, to advance program starting times up to one hour. The device also reduces bothersome outside lighting and affords a sharper picture, while eliminating shiny rainspots, saving costly repainting jobs, and is practical anywhere except where the screen faces west.

The El Mag System is a combination of



EPRAD SPEAKERS

MOTIOGRAPH SPEAKER

shadow box, electro-magnetic, and hydraulic principles. Inexpensive to operate, it uses electricity and water from existing facilities, and can be installed by job-site methods.

Eprad Speakers

EPRAD, Inc., has announced a new drive-in speaker with features found only in speakers costing dollars more. The "Merit" is made of diecast metal, with a four inch driver unit featuring a heavy 1.47 oz. ALNICO five permanent magnet. Other value features are a silicone treated driver unit, full cork gasket, and quick disconnect terminals.

EPRAD also has introduced the "HiFi," a quality produced speaker at reasonable cost. A new line of fiberglas speakers named the "Mellotone" and the "Humdinger" are molded from Navy crashboat-type fiberglas.

THE REFRESHMENT STAND

Coke Citation Dispenser

The Coca-Cola Company's new Dole Citation Dispenser has been making a gala debut in recent months across the country.

The culmination of 25 years of engineering

ATTENTION MR. THEATREMAN!

Eliminate Sanitary Napkin Disposal Problems.

Never again do you need to have Sanitary Napkins cause clogged toilets, customer complaints and EXPENSIVE PLUMBING BILLS.

SANIBAG © is neat, sanitary and very inexpensive! For ½ of 1¢ you can save a $10.00 plumbing bill. Beautiful metal dispensers add to the decor of any powder room.

TRY SANIBAG TODAY

Prices, Sample Bag and Circular Free On Request.

MELRO DISTRIBUTING CO.

DEPT. EX-1, CRAMER ROAD
POUGHKEEPSIE, NEW YORK

NESTLE DISPENSER

development by the Dole Valve Company, the new dispenser is injection-molded of durable, long-life plastic—a boon to the theatre because it can be easily cleaned and will maintain its appearance without repainting.

A piece of carefully thought-out equipment, the Citation's precision perfections guard zealously the quality of the product it serves and, because of its eye-appealing design, it insures the profit of rapid turn-over. The fool-proof non-adjustable gravity syrup system accurately proportions and uniformly mixes syrup and carbonated water for *any size drink*. The internal construction of the ice tank, cold plate, and syrup valve minimizes cleaning problems, it is said.

Summer Candy

Although old in name, Polar, one of Hollywood Candy's long-popular summer bars, is now made from an entirely new recipe. According to F. A. Martoccio, president, it has a center of white vanilla nougat, loaded with fresh toasted almonds, a topping of caramel, and rich dark bittersweet malted milk coating.

Results from test-sampling are very encouraging, the company states. Like the companion bars, Zero and Sno-King, it is made to satisfy summer tastes and stand up under summer heat . . . with no danger of spoilage in transit, no change in color, taste or texture when on display.

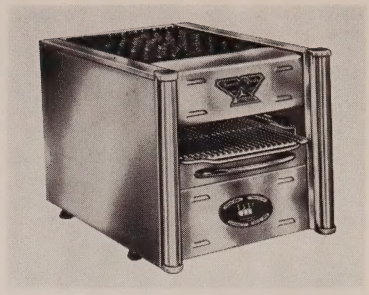
Polar is made in the five cent size only. Shipping started last month and will continue through the summer.

Barrel Dispenser

Selmix Dispensers, Inc., recently announced its new co-polymer high impact styrene two carbonated drink ice cooled barrel dispenser.

This barrel presents a revolutionary concept of drink dispensing from a bright new package. Being of high eye catching color combinations, it attracts additional customers and creates all important impulse-sales, it is said. The merchandising value of the Selmix barrel practically obsoletes its forerunner, the wooden type keg.

An optional feature is a complete carbonator built into the unit, making it self-contained. This innovation simplifies the installation of the barrel, whereby the only connections necessary are water, CO_2 gas, and electricity. It is that simple. The barrel incorporates the Selmix stainless steel valve and gravity syrup system. Cooling is provided by a Cold Plate containing 50'-0" stainless steel tubing. Two 2-gallon syrup tanks provide syrup for approximately 500 drinks. Its 75 lbs. ice capacity provides continuous cooling of 10-12 six ounce drinks per minute.



BAKERS PRIDE UNIT

Complete Pizza Service

More and more theatres are doing big business with pizza, which lends itself excellently to profit producing beverage-food tie-ins. A high-profit item that can be prepared in a matter of minutes, the refreshment stand operator does not have to take any special course in Italian cooking to produce pizza, which is prepared in advance by manufacturers for cooking in specially designed, compact ovens of several varieties.

The crust, sauce, cheeses, and spices which are part-and-parcel of pizza go naturally with carbonated beverages, and theatres which have installed pizza facilities have found that sales from fountain dispensers and automatic vendors of drinks have increased sharply.

Two pizza sources of supply for theatres are the Original Crispy Pizza Company and Arena Real Pizza Crust, Inc.

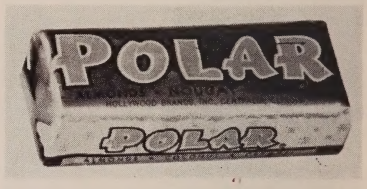
Nestlé Dispenser

"Hot Nestle's in a Jiffy!" is now a reality with the new Nestle's Chocolator. At the flick of a button, this dispenser mixes a cup of Nestle's hot chocolate in six seconds. The Nestle Chocolator is designed to greatly increase operators' profits per cup through labor economy and bulk pack savings over envelope service.

The Chocolator holds enough powder for eighty drinks. Its serving capacity is sixty drinks per hour. Serving requirements above this figure can be accommodated by the installation of an inexpensive pre-heater on the incoming cold water line.

COCA-COLA CITATION DISPENSER

SELMIX BARREL DISPENSER



HOLLYWOOD'S POLAR BAR

Compact Gas Broiler

A new line of Compact Counter Model "Glo-Brick" Charco Gas Broilers (Series 50), manufactured by Bakers Pride Oven Company, Inc., is designed to give meats the true char-broiled flavor, aroma, and appearance, without the use of charcoal. Counter models are manufactured in one to three grate sizes, and are also available in floor models.

The efficiency of these units is assured by exclusive features: new concealed internal grease drain system through the entire length of the unit; new type burners that work more efficiently with all types of gas; new multi-level salamander broiling rack, for toasting buns, braising, and pan broiling seafoods; new convenient gas feed connection arranged on bottom or back of unit, permitting flush installation.

Multi-Purpose Broiler

Clark Industries' infra-red "Vita-lectric" Broiler is a multi-purpose unit especially suited to conventional and drive-in theatre use.

Not only does the Vita-lectric broil hamburgers, hot dogs, cheeseburgers, and hot ham, bacon, and cheese sandwiches without grease and with all juices retained, but it also is adaptable for the preparation of small, individual pizzas, another high profit item. The broiler is said to cook fast and fresh, without fumes, and no vent is needed. A flasher sign mounted on the top attracts patrons' attention.

Theatre Supply Dealers of the United States

Comprehensive Listing of Names, Addresses, Personnel, Products, and the Areas Served

ALABAMA

THE QUEEN FEATURE SERVICE, INC., 1912½ Morris Ave., Birmingham 3. Telephone: ALpine 1-8665. PERSONNEL—Manager: Miss Vivian Harwell. Salesmen: William H. McKenzie, R. L. Tyler. AREA SERVED—Alabama, Tennessee, Mississippi, Georgia, Northern Florida.

ARIZONA

*ARIZONA FILM SUPPLY COMPANY, 33 W. Congress St., Tucson. Telephone: 26272. PERSONNEL—Nick Diamos, George N. Diamos, George O. Diamos. AREA SERVED—Arizona.

ARKANSAS

*ARKANSAS THEATRE SUPPLY, 1015 Division St., North Little Rock. Telephone: FR 2-2632—(Emergency Night) SK 3-2067. PERSONNEL—Owner: H. E. Wortsmith. Manager: Perry H. Kraft. AREA SERVED—Arkansas, Tennessee, Mississippi, Missouri.

CALIFORNIA

MIDSTATE THEATRE SUPPLY, 1906 Thomas, Fresno. Telephone: ADams 3-2455. PERSONNEL—Owner and manager: Paul Wallace. AREA SERVED—Central California.

WESTREX CORPORATION, 6601 Romaine Street, Hollywood 38. Telephone: Hollywood 7-1171. PERSONNEL—Manager: R. W. Wright.

J. M. BOYD COMPANY, 2032 S. Vermont Ave., Los Angeles 7. Telephone: REpublic 2-0046. Products Sold: Strong Electric Co., Luxtrol Controls. AREA SERVED—Southern California.

JOHN P. FILBERT COMPANY, INC., 2007 S. Vermont Ave., Los Angeles 7. Telephone: REpublic 4-1195. PERSONNEL—President: J. E. Miller. Secretary-Treasurer: John P. Filbert, Jr. Sales Manager: Spero L. Kontos. Office Manager: Ida K. Marshall.

NATIONAL THEATRE SUPPLY COMPANY, 1961 S. Vermont Ave., Los Angeles 7. Telephone: REpublic 1-4193. PERSONNEL—Vice President: L. C. Ownbey. Manager: G. J. Hessick. Salesmen: Al Schuyler, Sam Aspaas, Cal Tyler, Bill Ferrell, S. Lay, E. Sandler. Service Man: J. Denney. Shipper: W. Decuir. Specialty Sales Manager: H. L. Plunkett. AREA SERVED—Southern California, Arizona, Nevada.

PEMBREX THEATRE SUPPLY CORPORATION, 1969 S. Vermont Ave., Los Angeles 7. Used Equipment Division, 1975 S. Vermont Ave., Telephones: REpublic 1-3111—(Emergency Night) DUnkirk 8-6764, TOpaz 2-3412. PERSONNEL—President and General Manager: Louis M. Wutke. AREA SERVED—Southern California, Arizona, and Nevada.

B. F. SHEARER COMPANY, 1964 S. Vermont Ave., Los Angeles 7. Telephones: REpublic 3-1145—(Night) BRighton 04901, AXminster 1-3576. PERSONNEL—Manager: Barclay W. Ardell. Salesmen: Ed Budd, Don Grieve, F. T. Lay. Engineer: Henry Grussing. AREA SERVED—Southern California, Arizona, Southern Nevada.

GLENN E. KOROPP, 3600 San Ysidro Way, Sacramento 25. Telephone: IVanhoe 9-0941. PERSONNEL: Glenn E. Koropp, Virginia E. Koropp. Products Sold: In-Car Speakers. AREA SERVED: All Western States.

NATIONAL THEATRE SUPPLY COMPANY, 255 Golden Gate Ave., San Francisco 2. Telephone: MArket 1-4171. PERSONNEL—Manager: Heaton Randall. Assistant Manager: R. H. Woelfl. Salesman: J. C. Dalk. Service Man: M. A. Lewis. Shipper: F. Dilonardo. AREA SERVED—Northern California, Nevada, Southern Oregon.

WALTER G. PREDDEY, 187 Golden Gate Ave., San Francisco 2. Telephones: UNderhill 1-7571-2—(Emergency Night) JUniper 6-1038. PERSONNEL—Owners: Walter G. Preddey, Robert O. Bemis (Copartnership). Salesmen: Oscar Barringer, R. L. Mann. AREA SERVED—California, Nevada, Oregon, Arizona, Hawaii, Alaska.

B. F. SHEARER COMPANY OF CALIFORNIA, 243 Golden Gate Ave., San Francisco 2. Telephone: UNderhill 1-1816. PERSONNEL—Manager: H. I. Tegtmeier. Salesmen: Wesley Rosenthal, E. R. Bechtel. AREA SERVED—Northern California, Nevada, Southern Oregon, Hawaii.

WESTERN THEATRICAL EQUIPMENT COMPANY, 168 Golden Gate Ave., San Francisco 2. Telephone: PRospect 6-1251. PERSONNEL—General Manager: James R. Barry. AREA SERVED—California, Nevada.

COLORADO

NATIONAL THEATRE SUPPLY COMPANY, 2111 Champa St., Denver 5. Telephones: TAbor 5-0201—(Emergency Night) RAce 2-0392. PERSONNEL—Manager: J. B. Stone. Assistant Manager: J. R. Lutz. Salesmen: Bob Tankersley, Morton Dykstethuis, C. H. Lyman, R. J. Miller, M. Schwaninger. Service Man: A. Daniel. Shipper: J. McKelvey. AREA SERVED—Colorado, New Mexico, Wyoming, Western Nebraska, Eastern Montana, and Black Hills of South Dakota.

SERVICE THEATRE SUPPLY COMPANY, 2054 Broadway, Denver 2. Telephone: AL 5-1597. PERSONNEL—President: Ted Knox. Secretary and Treasurer: Elsie Knox. AREA SERVED—Denver Film Territory.

EDITOR'S COMMENT

While every effort has been made by repeated mailings and even by long distance telephone to achieve a high degree of accuracy and uniformity in the domestic, Canadian, and foreign theatre supply dealer entries which follow, it has been impossible to secure the 100 per cent cooperation of the dealers themselves in confirming, revising, or amplifying the information in these FREE listings.

With the assistance of most of the large concerns with branch offices in the U. S. and affiliates overseas, we have been able to supply up-to-the-minute information on such outlets. Other dealers who have not confirmed, revised, or amplified their listings as requested are indicated by an asterisk (*).

WESTERN SERVICE AND SUPPLY, INC., 2134 Broadway, Denver 5. Telephones: Keystone 4-1979—TAbor 5-6312. PERSONNEL—President: S. R. Langwith. Office Manager: Miss Jean Gerbase. Stock Clerk: William Calabrese. AREA SERVED—Colorado, Wyoming, Western Nebraska, Western South Dakota, New Mexico.

CONNECTICUT

NATIONAL THEATRE SUPPLY COMPANY, 1890 Dixwell Avenue, Hamden 14. Telephones: ATwater 8-2547—(Emergency Night) ATwater 8-8063. PERSONNEL—Manager: R. J. Mauro. Salesmen: George M. Peloso, C. E. Cocco. AREA SERVED—Connecticut.

DISTRICT OF COLUMBIA

*ELMER H. BRIENT AND SONS, INC., 925 New Jersey Ave., N.W., Washington, D. C. Telephones: DIstrict 7-9505-6, OLiver 2-1453. PERSONNEL—General Manager: Elmer H. Brient. Office Manager: Ted C. Brient. Engineers: K. F. Owens, C. L. Rakow. AREA SERVED—District of Columbia, Maryland, Virginia, Northeastern W. Virginia, Delaware, Pennsylvania.

BEN LUST THEATRE SUPPLY COMPANY, 1001 New Jersey Ave., N.W., Washington 1. Telephone: NAtional 8-5376. PERSONNEL—Owner and Manager: Irwin Lust. Salesman: O. F. Leland. Secretary: Ray Warren. Service Engineer: Berkley Williams. AREA SERVED—District of Columbia, Maryland, West Virginia, Virginia.

R & S THEATRE SUPPLY COMPANY, 1015 New Jersey Ave., N.W., Washington 1. Telephones: STerling 3-8938—(Emergency Night) WOodley 6-0790, EMerson 3-5686. PERSONNEL—Samuel N. Wheeler, Ross S. Wheeler. AREA SERVED— Virginia, Maryland, Delaware, District of Columbia.

FLORIDA

JOE HORNSTEIN, INC., 273 W. Flagler St., Miami. Telephones: FRanklin 4-7596—(Emergency Night) MOhawk 7-7424. PERSONNEL—Manager: Hal Hornstein. Counter Man: E. Gilliam. Sales Engineer: O. G. Taylor, 2927 Lown Ave., Tampa. AREA SERVED—Southern States.

*PEARCE THEATRE EQUIPMENT CORPORATION, 320 W. Flagler St., Miami. Telephone: FRanklin 3-5038. PERSONNEL—Manager: Edgar B. Pearce. Office Manager: Mary E. Clausen. Theatre Engineer: L. C. Webb. Air Conditioning Engineer: C. V. Mitchell. Sales Manager: F. E. Van Hoesen. AREA SERVED—Florida, Cuba, the Bahamas.

UNITED THEATRE SUPPLY CORPORATION, 2408 Grand Central Ave., Tampa 1. Telephone: 8-5189. PERSONNEL—President and Treasurer: Ray Busler. Secretary: Edna L. Worth. Counter Man: S. W. Smith. AREA SERVED—Florida, South Georgia, Cuba, the Bahamas.

GEORGIA

DIXIE THEATRE SERVICE AND SUPPLY COMPANY, 1010 N. Slappey Drive, Albany. Telephones: HE 2-2846—(Emergency Night) HE 2-2317. PERSONNEL—President and General Manager: J. O. McClung. Vice-President: L. W. McClung. Engineer: W. C. McClung. Service: Buddy McClung. Sales: C. T. Arn. AREA SERVED—Georgia, Alabama, Florida, Tennessee.

CAPITAL CITY SUPPLY COMPANY, INC., 161 Walton St., N.W., Atlanta 3. Telephones: JA 1-1244—(Emergency Night) CE 3-6885; TR 2-4493. PERSONNEL—President and Manager: O. J. Howell. Vice-President in Charge of Sales: Lewis Waits. AREA SERVED—Georgia, Tennessee, Alabama, part of Florida.

*DIXIE THEATRE SERVICE AND SUPPLY COMPANY, 95 Walton St., N.W., Atlanta 3. Telephone: JAckson 2-4118. PERSONNEL—Manager: J. O. McClung. AREA SERVED—Georgia, Alabama, Florida, Tennessee.

NATIONAL THEATRE SUPPLY COMPANY, 187 Walton St., N.W., Atlanta 3. Telephone: WAlnut 4613. PERSONNEL—Manager: J. C. Brown. Assistant Manager: R. M. Goldsmith. Salesmen: J. G. Thigpen, F. M. Lanier, W. E. Plunkett. Service Man: C. Harris. AREA SERVED—Georgia, Florida, Alabama, Tennessee.

WIL-KIN THEATRE SUPPLY, INC., General Offices: 301 N. Walton Ave., N.E., Atlanta 8. Sales Branch: 150 Walton St., N.W., Atlanta 3. Telephone: WAlnut 4613. PERSONNEL—General Manager: E. H. Geissler. General Sales Manager: C. W. Fortson. AREA SERVED—Alabama, Florida, Georgia, Tennessee.

*RHODES SOUND AND PROJECTION SERVICE, 218 E. 56th St., Savannah. Telephones: 3-8788—(If no answer) 3-1174. PERSONNEL—President: Irma F. Rhodes. Engineer and Manager: E. L. Rhodes. AREA SERVED—Georgia, Southeast South Carolina, Northern Florida.

*SOUTHEASTERN THEATRE EQUIPMENT COMPANY, 203 Luckie Street, N.W., Atlanta 1. Telephone: JA 3-0461. PERSONNEL—President and General Manager: J. B. Dumestre, Jr. Manager: J. B. Dumestre, III. Representatives: W. N. Troy, Fred Nash, Bob Elzey. AREA SERVED—Southern States.

ILLINOIS

ABBOTT THEATRE EQUIPMENT COMPANY, INC., 1311 S. Wabash Ave., Chicago 5. Telephones: HArrison 7-7573-74-75-76. PERSONNEL—President: Harold Abbott. Treasurer: Eleanore Abbott. Secretary and General Manager: Erwin J. Peterson. Sales Department: Spiro Charuhas. Office Manager: Elaine Korose. Repair Dept.: Bernard Focken. Counter and Shipping: Patrick Coyle. AREA SERVED—Illinois, Northern Indiana.

*AN-GAR, INC., 2831 N. Clark St., Chicago. PERSONNEL—G. C. Anders, R. W. Dassow.

MOVIE SUPPLY COMPANY, INC., 3507 North Pulaski Rd., Chicago. Telephone: COrnelia 7-3130. AREA SERVED—Entire U. S.

NATIONAL THEATRE SUPPLY COMPANY, 1325 S. Wabash Ave., Chicago 5. Telephone: WAbash 2-8266. PERSONNEL—Manager: J. C. Brown. Assistant Manager: R. M. Novak. AREA SERVED—Illinois, Northern Indiana.

INDIANA

GER-BAR, INC., 442 N. Illinois St., Indianapolis 4. Telephone: MElrose 4-1727. PERSONNEL—B. Hopkins, M. Hopkins, S. Goddard, R. Webster, F. Leas.

NATIONAL THEATRE SUPPLY COMPANY, 436 N. Illinois St., Indianapolis 4. Telephones: MElrose 4-4517—(Emergency Night) CLifford 5-5825, WAlnut 3-6490, WAlnut 3-5126. PERSONNEL—Manager: B. N. Peterson. Office Manager: N. Geraghty. Salesmen: W. S. Smith, J. Archer. Inside Salesman: J. Bommerscheim. Shipping Clerk: L. Lewis. AREA SERVED—Indiana, Kentucky.

PROJECTION EQUIPMENT COMPANY, Union City. Telephone: 661. PERSONNEL—Geo. Wenger.

IOWA

DES MOINES THEATRE SUPPLY COMPANY, 1121-23 High St., Des Moines 9. Telephone: CH 3-6520. PERSONNEL—Owner and Manager: A. E. Thiele. Salesman: H. N. Sutton. AREA SERVED—Iowa.

KANSAS

SOUTHWEST THEATRE EQUIPMENT COMPANY, 118½ W. Douglas Ave., P. O. Box 2138, Wichita 1. Telephone: 2-2153. PERSONNEL—Owner and Manager: C. D. Peck. Projection Maintenance: J. O. Buckles. AREA SERVED—Kansas, Missouri, Oklahoma, Arkansas, Texas, New Mexico.

KENTUCKY

FALLS CITY THEATRE EQUIPMENT COMPANY, 427-29 S. 3rd St., Louisville 2. Telephone: JUniper 4-7559, JUniper 3-3186. PERSONNEL—Owners: W. E. Carrell, Sr., W. E. Carrell, II, J. Raymond Mattingly. Salesmen: Charles B. Wells, Jr., E. C. Barnard. Counter Man: Harry Woodson. Service Engineer: John MacDonald. AREA SERVED—Kentucky, Southern Indiana, Southern Ohio, Northern Tennessee.

HADDEN THEATRE SUPPLY COMPANY, 209 S. 3rd St., Louisville 2. Telephones: JUniper 4-0477—(Emergency Night) GLendale 2-2153. PERSONNEL—Owner: J. Stoner Hadden. Office Manager: Henry J. Uphaus. AREA SERVED—Kentucky, Southern Indiana.

LOUISIANA

HODGES THEATRE SUPPLY COMPANY, INC., 1309 Cleveland Ave., New Orleans 13. Telephones: TUlane 8356—(Emergency Night) 21-4-3441, FAirview 8902. PERSONNEL—President: W. A. Hodges. Manager: J. P. Magendie.

Salesman: Joe Faia. Sound Engineer & Salesman: H. J. Ballam. AREA SERVED—Louisiana, Southern Mississippi, Southern Alabama, Northern Florida.

NATIONAL THEATRE SUPPLY COMPANY, 220 S. Liberty St., New Orleans 12. Telephone: Tulane 4891. PERSONNEL—Manager: T. W. Neely. Salesman: C. A. Achee, Jr. Shipper: P. Caruso, Jr. AREA SERVED—Louisiana, Alabama, Florida, Mississippi.

SOUTHEASTERN THEATRE EQUIPMENT COMPANY OF LOUISIANA, 214 S. Liberty St., New Orleans 12. Telephone: Tulane 8661. PERSONNEL—Resident Manager: W. H. Murphy, Jr. Representative: Don Wilmoth. Office Manager: Ruth Toubman.

ALON BOYD, P. O. Box 362, Shreveport. Telephone: 2-6612. AREA SERVED—Louisiana, Mississippi, Southwest Alabama.

MARYLAND

J. F. DUSMAN COMPANY, 12 East 25th St., Baltimore 18. Telephones: BElmont 5-2747-48—(Emergency Night) CLifton 4-0757. PERSONNEL—Manager: Henry C. Dusman. Salesman: Jack Dusman. AREA SERVED—Maryland, District of Columbia, Virginia.

NATIONAL THEATRE SUPPLY COMPANY, 417 St. Paul Place, Baltimore 2. Telephones: MUlberry 5-8266-67. PERSONNEL—Manager: H. C. Atkinson. Service Man: L. P. Sieber. Counter Clerk: E. L. Exler. Shipping Clerk: L. Gough. AREA SERVED—Maryland, District of Columbia, Virginia.

MASSACHUSETTS

CAPITOL THEATRE SUPPLY COMPANY, 28 Piedmont St., Boston 16. Telephones: LIberty 2-6797—(Emergency Night) Blue Hills 8-6855, FAirview 3-3192. PERSONNEL—President: K. R. Douglass. Vice-President: K. R. Douglass, Jr. Treasurer: Frank M. Gray. General Manager: Ernest J. Comi. Salesmen: Don Pickering, Ken Douglass, Jr., Charles Fish, Lou Phillips, Frank W. Grabau. AREA SERVED—Massachusetts, Connecticut, Rhode Island, Maine, Vermont, New Hampshire.

INDEPENDENT THEATRE SUPPLY COMPANY, INC., 20 Melrose St., Boston 16. Telephones: LIberty 2-0051—(Emergency Night) MIssion 3-5128. PERSONNEL—Manager: E. K. Hosmer. Salesman: R. Quint. Counter Man: J. Martin. AREA SERVED—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island.

MASSACHUSETTS THEATRE EQUIPMENT COMPANY, 20 Piedmont St., Boston 16. Telephones: LIberty 2-9814—(Emergency Night) GRanite 2-7885, BEImont 5-2870. PERSONNEL—Owner: P. E. Comi, Manager: William J. Cliggot. Sales and Installation: P. E. Comi, Joseph Testa. AREA SERVED—All New England states.

NATIONAL THEATRE SUPPLY COMPANY, 37 Winchester St., Boston 16. Telephones: LIberty 2-2663—(Emergency Night) LOgan 7-7747. PERSONNEL—Manager: H. J. McKinney. Salesmen: Lawrence Cooney, George Poore. AREA SERVED—New England States, except Connecticut.

MICHIGAN

*AMUSEMENT SUPPLY COMPANY, 208 W. Montcalm St., Detroit.

"ERNIE" FORBES THEATRE SUPPLY, 212-14 W. Montcalm St., Detroit 1. Telephones: WOodward 1-1122-3—(Emergency Night) VE 7-1227, ED 1-9048. PERSONNEL—Owner: Ernest H. Forbes. Salesman: Howie T. Forbes. Secretary: J. Sturdevant. AREA SERVED—Michigan.

NATIONAL THEATRE SUPPLY COMPANY, 2312 Cass Ave., Detroit 1. Telephones: WOodward 1-2447-8-9—(Emergency Night) LOgan 5-4996, WEbster 5-8453. PERSONNEL—Manager: C. Williamson. Salesman: J. J. Kenny, C. J. Rowston. Service Man: G. Studebaker. Shipping Clerk: F. Smith. AREA SERVED—Michigan.

RINGOLD THEATRE EQUIPMENT COMPANY, 106 Michigan St., N.W., Grand Rapids 2. Telephones: GL 4-8852—(Emergency Night) CH 3-2413. PERSONNEL—Owner and Manager: H. J. Ringold. AREA SERVED—Michigan.

MINNESOTA

*NATIONAL EQUIPMENT COMPANY, 7 E. Michigan St., Duluth 2. Telephone: RA 2-4567. PERSONNEL—James B. Enochs. AREA SERVED—Northeastern Minnesota, Northern Wisconsin.

AVED THEATRE SERVICE AND SUPPLY, 830 Upper Midwest Bldg., Minneapolis 1. Telephone: FEderal 6-2122. PERSONNEL—Proprietor: A. L. Aved. Products Sold: Ballantyne equipment.

*ELLIOTT FILM AND THEATRE EQUIPMENT COMPANY, 1110 Nicollet Ave., Minneapolis.

FROSCH THEATRE SUPPLY, 51 Glenwood Ave., Minneapolis 3. Telephone: FEderal 5-1166. PERSONNEL—Owner: M. E. Frosch. Manager: Henry Miller—JU 8-7889. AREA SERVED—Minnesota, North Dakota, South Dakota, Northern Iowa, Northern Wisconsin, Northern Michigan.

MINNEAPOLIS THEATRE SUPPLY, INC., 75 Glenwood Ave., Minneapolis 3. Telephones: FEderal 5-3306—(Emergency Night) SUnset 4-7575, TUxedo 1-3494. PERSONNEL—Co-Owners: C. C. Creamer, R. C. Lahti, R. E. Lundquist. AREA SERVED—Minnesota, North and South Dakota, North-West Wisconsin.

NATIONAL THEATRE SUPPLY COMPANY, 56 Glenwood Ave., Minneapolis 3. Telephones: FEderal 2-8273—(Emergency Night) WAlnut 2-4127. PERSONNEL—Manager: A. T. Crawmer. Salesman: Y. J. Barrett. Servicemen: H. R. Peterson, A. Kuiper. AREA SERVED—Minnesota, North Dakota, Western Wisconsin, Eastern South Dakota.

MISSOURI

MISSOURI THEATRE SUPPLY COMPANY, 115 W. 18th St., Kansas City 8. Telephone: BAltimore 1-3070-1. PERSONNEL—Owners: Mrs. Maxine Peek and J. Eldon Peek. Manager: L. J. Kimbriel. AREA SERVED—Kansas, Missouri, Iowa, Nebraska.

NATIONAL THEATRE SUPPLY COMPANY, 223 W. 18th St., Kansas City 8. Telephones: BAltimore 1-9858—(Emergency Night) JAckson 3-8082. PERSONNEL—Manager: G. K. Slipper. Salesmen: W. A. Allison, W. R. Davis, C. D. Whitney. Shipper: A. Nichols. Store Sales: Mel Murray. AREA SERVED—Kansas, Western Missouri, Iowa, Nebraska.

*SHREVE THEATRE SUPPLY COMPANY, 217 W. 18th St., Kansas City 8. Telephones: HArrison 1-7849, 1-4206—(Emergency Night) WAbash 3-0632.

STEBBINS THEATRE EQUIPMENT COMPANY, 1804 Wyandotte, Kansas City 8. Telephones: GRand 1-0134—(Emergency Night) DRexel 1-2791. PERSONNEL—Manager: C. H. Badger. Sales: C. P. Pearce, J. J. Gillis. AREA SERVED—Kansas, Missouri, Oklahoma, Nebraska.

NATIONAL THEATRE SUPPLY COMPANY, 3212 Olive St., St. Louis 3. Telephones: JE 1-6350-51. PERSONNEL—Manager: W. C. Earle. Salesmen: H. H. Hoff, John Mattler. Shipper: C. Allen. AREA SERVED—Eastern Missouri, Southern Illinois, Western Kentucky.

ST. LOUIS THEATRE SUPPLY COMPANY, 3310 Olive St., St. Louis 3. Telephones: Jefferson 7974-75—(Emergency Night and Holidays) WOodland 1-4781. PERSONNEL—President: G. Scott Collins. Office: Joyce Trestik. Repairs: Tony Parisi. AREA SERVED—Central and Southern Illinois, Kentucky, Eastern Missouri.

NEBRASKA

QUALITY THEATRE SUPPLY COMPANY, INC., 1515 Davenport Street, Omaha 2. Telephones: ATlantic 7253—Emergency Night) Terrace 1519. PERSONNEL—Owners: Carl and Lynn White. Manager: Carl White. Secretary: Hazel White. Salesman: Wilbur Grenville. Counter Man: Carl White, Jr. AREA SERVED—Nebraska, Western Iowa, Southern South Dakota.

NEW JERSEY

*THEATRE SUPPLY CORPORATION, 267 Rhode Island Ave., E. Orange. Telephone: ORange 7-1023. PERSONNEL—General Manager: Louis Weiner.

NEW MEXICO

EASTERN NEW MEXICO THEATRE SUPPLY COMPANY, Box 1099, Clovis. Telephones: POrter 2-1371—(Emergency Night) POrter 3-4558. PERSONNEL—Manager: C. F. Hardwick. AREA SERVED—Eastern New Mexico, Panhandle of Texas.

NEW YORK

ALBANY THEATRE SUPPLY COMPANY, 443 N. Pearl St., Albany 4. Telephones: 5-5055—(Emergency Night) 62-4306. PERSONNEL—Owners: John Bylancik, Jack McGrath. Salesmen: Ed McCaffery, John Bylancik, Ed Herrmann. Manager: Jack McGrath. Counter: A. Bonano. AREA SERVED—New York State, Vermont, Massachusetts.

NATIONAL THEATRE SUPPLY COMPANY, 962 Broadway, Albany 4. Telephones: 5-1479—(Emergency Night) Cedar 7-1328. PERSONNEL—Manager: Ralph J. Mauro. Counter Clerk: A. D. Hermans, Sr. Secretary: Doris B. McGrath. AREA SERVED—Central New York.

AUBURN THEATRE EQUIPMENT COMPANY, 11 North Street, Auburn. Telephone: 2-5141. PERSONNEL—Owner: Selio DePasquale. Sales Manager: Charles J. Vanderloo. Office Manager: N. Strecker. Salesmen: M. E. Dawson, R. F. Holzhauer. Counter Man: John DePasquale. Products Sold: Everything For The Theatre.

EASTERN THEATRE SUPPLY COMPANY, INC., 496 Pearl St., Buffalo 2. Telephones: MOhawk 0001 (Emergency Night) ATwater 3720, CYpress 0891. PERSONNEL—President and General Manager: E. Pickrell. Secretary-Treasurer: Paul Wolk. Manager: Frank A. Ciemny. Sales: Al Becker, M. E. Pickrell, Jr. AREA SERVED—New York State, except New York City.

NATIONAL THEATRE SUPPLY COMPANY, 500 Pearl St., Buffalo 2. Telephones: Washington 1736-7—(Emergency Night) Bedford 2881, Bedford 4516. PERSONNEL—Manager: G. R. George. Office Manager: Bertha Kreink. Shipping Clerk: J. Cullen. AREA SERVED—Western New York State.

CAPITOL MOTION PICTURE SUPPLY COMPANY, 630 Ninth Ave., New York 36. Telephone: PLaza 7-4510. PERSONNEL—Ben Perse, Harry Perse. Sales Engineer: Peter Braut. Counter Men: Sam Ochs, Peter Braut. AREA SERVED—Southern New York State, Pennsylvania, New Jersey, Ohio.

CINEMATOGRAPH INTERNATIONAL, INC. (Export Division of Joe Hornstein, Inc.), 630 Ninth Avenue, New York 36. Telephone: Circle 6-6285 (Emergency Night) ESplanade 6-5698, HEmpstead 7-9034, SCarsdale 3-1623. PERSONNEL—President: George Hornstein. Sales Engineer: Jack Schaffer. Salesmen: Julian Norwick, G. Pinckney, Arthur Moskowitz. Service Engineers: H. Schwartz, Joe Kelly. AREA SERVED—Entire World.

CROWN MOTION PICTURE SUPPLIES CORPORATION, 354 W. 44th St., New York 18. PERSONNEL—Owner and President: Julius H. Katz. Salesman: Wallace J. Katz. AREA SERVED—New York, Northern New Jersey, Connecticut.

JOE HORNSTEIN, INC., 341 West 44th St., New York 36. Telephones: Circle 6-6285-86-87-88-89 (Emergency Night) SCarsdale 3-1623, ESplanade 6-5698, MAnhasset 7-6152. PERSONNEL—President: George Hornstein. Sales Engineer: Jack Schaffer. Salesmen: J. Norwick, C. Scott. Service Engineers: D. Corbett, H. Schwartz. AREA SERVED—Eastern States.

NATIONAL THEATRE SUPPLY COMPANY, 356 W. 44th St., New York 18. Telephone: Circle 5-6900. PERSONNEL—Manager: Allen G. Smith. Sales Manager: Bernard J. Kleid. Salesmen: H. E. Pear, S. Rindner, A. Scherer. Shipping Clerk: A. Haines. AREA SERVED—Greater New York City, Southern New York, Northern New Jersey.

NORTH AMERICAN PHILIPS COMPANY, INC., Motion Picture Equipment Div., 100 East 42nd St., New York 17.

S.O.S. CINEMA SUPPLY CORPORATION, 602 W. 52nd St., New York 19. (See Display Listing Below).

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DIXIE THEATRE SUPPLY COMPANY, 213 West Third St., Charlotte 1. Telephones: EDison 2-4343—(Emergency Night) EDison 3-3381. PERSONNEL—Owner: J. B. Erskine. AREA SERVED—North and South Carolina.

HARRIS THEATRE SALES, INC., 315 S. Church St., Charlotte 1. Telephones: FR 5-1349—(Emergency Night) ED 4-5915. PERSONNEL—President and Treasurer: W. F. Harris. Vice-President and Secretary: J. E. Harris. Director: Y. E. Jordan. S. Carolina Salesman: Dean House. N. Carolina Salesman: W. F. Harris, Jr. AREA SERVED—North and South Carolina.

NATIONAL THEATRE SUPPLY COMPANY, 304 S. Church St., Charlotte 1. Telephones: ED 2-7753, ED 2-7754—(Emergency Night) EM 6-0020, EX 9-5949, JA 3-5891. PERSONNEL—Manager: R. D. Turnbull. Salesmen: A. R. Coskrey, J. H. Dunphy, Mike Baldivid, J. K. Price. AREA SERVED—North and South Carolina.

*SOUTHEASTERN THEATRE EQUIPMENT COMPANY OF NORTH CAROLINA, 209 S. Poplar St., Charlotte 2. Telephones: 4-3093-94—(Emergency Night) 4-1804. PERSONNEL—President and General Manager: J. B. Dumestre, Jr. Manager: W. P. White. AREA SERVED—North and South Carolina.

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*THEATRE EQUIPMENT COMPANY, 1220 E. Seventh St., Charlotte. Telephones: 5-8481-2-3. PERSONNEL—Manager: R. C. Saunders. Sound Engineer: Lewis Saunders.

WIL-KIN THEATRE SUPPLY, INC., 229 South Church St., Charlotte 2. Telephone: EDison 3-6101. PERSONNEL—General Manager: E. H. Geissler. General Sales Manager: C. W. Fortson. Branch Manager: J. C. Tipton. AREA SERVED—North Carolina, South Carolina.

STANDARD THEATRE SUPPLY COMPANY, 215 E. Washington St., Greensboro. Telephones: BR 2-6165, BR 2-6166—(Emergency Night) BR 2-7281, BR 3-2128. PERSONNEL—Owner: Phil Wicker. Manager: Lawson Rankin. Service Engineer: J. W. Markham. Salesmen: Lloyd Parson, Kermit Clark. AREA SERVED—North and South Carolina, Southern Virginia.

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AKRON THEATRE SUPPLY, INC., 980 N. Main St., Akron 10. Telephone: FRanklin 6-2480. PERSONNEL—President: Allan R. Benson. Vice-President: Gordon G. Anderson. Sales and Service: Harry P. Jones. AREA SERVED—Northern Ohio, Western Pennsylvania.

MID-WEST THEATRE SUPPLY COMPANY, INC., 1638 Central Parkway, Cincinnati 10. Telephone: CHerry 1-7724. PERSONNEL—President: H. B. Snook. Vice President: T. M. Fisher. Installation Supervisor: E. N. Howe. AREA SERVED—Southern Ohio, Indiana, Kentucky, and West Virginia.

NATIONAL THEATRE SUPPLY COMPANY, 1716 Logan St., Cincinnati 10. Telephones: MAin 1-6580-81. PERSONNEL—Manager: James A. Conn. Salesmen: C. A. Allbright, F. Pat Conn. Shipper: R. Hunt. AREA SERVED— Southern Ohio, West Virginia, Kentucky.

NATIONAL THEATRE SUPPLY COMPANY, 2128 Payne Ave., Cleveland 14. Telephones: PRospect 1-4613-4—(Emergency Night) EDison 1-8593, ENdicott 1-0577. PERSONNEL—Manager: M. H. Fritchle. Assistant Manager: M. H. Mutchler. Salesman: Nick Lubich. Shipper: W. Van Dyke. AREA SERVED—Northern Ohio.

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DAYTON THEATRE SUPPLY COMPANY, 4679 Richwood Drive, Dayton 39. Telephone: Oxmore 0294. PERSONNEL—Owner and Manager: Charlie D. Wall. AREA SERVED—Southern Ohio, Northern Kentucky.

TOLEDO THEATRE SUPPLY COMPANY, 3916 Secor Road, Toledo 13. Telephones: GReenwood 4-2408—(Emergency Night) GReenwood 4-6995. PERSONNEL—General Manager: Brad H. Brockway. AREA SERVED: Cleveland Territory, Southeastern Michigan, Northeastern Indiana.

THEATRE EQUIPMENT COMPANY, 1206 Cherry St., Toledo 4. Telephones: CHerry 3-8106. PERSONNEL—President: Orville C. Wells. AREA SERVED—Ohio, Indiana, Michigan.

OKLAHOMA

NATIONAL THEATRE SUPPLY COMPANY, 700 W. Grand Ave., Oklahoma City 2. Telephones: CE 2-0203—(Emergency Night) JA 8-2476, VI 2-2466, JA 4-6048. PERSONNEL—Manager: J. I. Watkins. Salesman: Howard Nelson. Office Manager: W. W. Miller. AREA SERVED—Oklahoma and Panhandle of Texas.

OKLAHOMA THEATRE SUPPLY COMPANY, 623 W. Grand Ave., Oklahoma City 2. Telephones: REgent 6-8691—(Emergency Night) JA 8-2471. PERSONNEL—Owners: J. Eldon Peek and Maxine Peek. Counter Man: Gordon Wortham. AREA SERVED—Oklahoma, Panhandle of Texas, West Arkansas.

OREGON

MOTION PICTURE ACCESSORIES COMPANY, Box 240, Dayton. Telephone: 6X13. PERSONNEL—Owner: James B. Dabney, Jr. AREA SERVED—Western and Coast States.

MODERN THEATRE SUPPLY, INC., 1935 N.W. Kearney, Portland. Telephone, CApitol 2-6437. PERSONNEL—Manager: La Vere Bell. AREA SERVED—Oregon, Washington, Idaho, Montana, Alaska.

B. F. SHEARER COMPANY, 1947 N. W. Kearney St., Portland 9. Telephones: CApitol 8-7543—(Emergency Night) BElmont 4-1406. PERSONNEL—Branch Manager: R. A. Brobeck. Counter Man: Dan Stitt. AREA SERVED—Oregon, Southern Idaho, Southern Washington.

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WESTERN SOUND AND EQUIPMENT COMPANY, 264 East First South St., Salt Lake City 1. Telephone: EMpire 3-9974. PERSONNEL—Manager: L. Gerber. Salesman: M. Fuller. Products Sold: Century, RCA, and Strong equipment. Mohawk Carpets.

VIRGINIA

NORFOLK PHOTO AND MOVIE SUPPLY COMPANY, 4101 Hampton Blvd., Norfolk 8. Telephones: 5-3818 (Emergency Night) 5-1744, 3-5337. PERSONNEL—Owner: Morris Ornoff.

PERDUE CINEMA SERVICE, 220 Eugene Drive, P.O. Box 671, Roanoke. Telephone: DI 3-9940. PERSONNEL—Manager: Roscoe E. Perdue. Salesman: Nat Tanner. AREA SERVED—Western Virginia.

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AMERICAN THEATRE SUPPLY COMPANY, INC., 2300 First Ave., Seattle 1. Telephones: SEneca 4572, VErmont 6662. PERSONNEL—President: R. E. W. Fairleigh. Treasurer: A. L. Hansen Sales Manager: Richard Fairleigh. AREA SERVED—Pacific Northwest and California.

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NATIONAL THEATRE SUPPLY COMPANY, 2319 Second Ave., Seattle 1. Telephones: MAin 2-3422—(Emergency Night) LAkeview 2-5956, LIncoln 2-4320. PERSONNEL—Manager: W. C. Stahl. Salesman: John Riley. Shipper: E. Rinehart. AREA SERVED—Washington, Oregon, Montana, Idaho, Alaska.

B. F. SHEARER COMPANY, 2318 Second Ave., Seattle 1. Telephones: MAin 3-8247—(Emergency Night) EMerson 4-2233, EMerson 2-3684. PERSONNEL—Vice-President and Manager: T. L. Shearer. Salesman: C. H. Beresford. AREA SERVED—Montana, Washington, Panhandle of Idaho, Alaska.

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LOVETT AND COMPANY, Box 1127, Clarksburg. Offices: U. S. 19, Weston. Telephones: Weston 1670—(Emergency Night) Clarkesburg MA 2-7822. PERSONNEL—General Manager: D. E. Lovett. Sales Representative: Gray Barker. Office Manager: Virginia Howell. AREA SERVED—West Virginia, Virginia, Maryland, Pennsylvania.

THEATRE SERVICE AND SUPPLY COMPANY, Box 1389, Huntington. Telephones: JA 2-4043, JA 5-5477. PERSONNEL—Manager: S. T. Gallimore. Treasurer: P. J. Sheets.

WISCONSIN

VIC MANHARDT COMPANY, INC., 3131 W. Lisbon Ave., Milwaukee 8. Telephones: Division 2-8344-45—(Emergency Night) Bluemond 8-4935, HIlltop 5-0415. PERSONNEL—President: Victor R. Manhardt. Salesman: Elmer J. Engel. AREA SERVED—Milwaukee Film Territory, Northern Wisconsin, Upper Michigan.

NATIONAL THEATRE SUPPLY COMPANY, 1027 N. Eighth St., Milwaukee 3. Telephones: BRoadway 1-7333—(Emergency Night) HIlltop 5-7479, DIvision 2-8184, LIncoln 3-2405. PERSONNEL—Manager: A. J. Larsen. Office Manager: M. Anacker. Serviceman: F. J. Wagner AREA SERVED—Milwaukee Exchange Territory, Upper Michigan.

*THE RAY SMITH COMPANY, 710 W. State St., Milwaukee 3. Telephones: BRoadway 1-2100—(Emergency Night) FRanklin 4-3744, BRoadway 6-0579. PERSONNEL—Owner: Ray A. Smith. Office Manager: Jerome P. Kurz. Service Man: Alex Zsebe. AREA SERVED—Wisconsin, Northern Michigan.

ACOUSTICAL PROBLEMS

Continued from Page 24

analysis. Although many factors govern the type and location of acoustical treatment, the the following rules are generally observed for proper design:

1. Concave rear walls, parallel side walls, and parallel ceiling-floor combinations should be avoided. They result in objectionable reflections of sound.
2. Walls and ceilings can be contoured to provide proper diffusion without hindering the efficient transmission of sound to the rear of the room.
3. Absorptive materials should be applied to the rear walls to eliminate "slap-back."
4. Wall areas behind the screen should be covered with highly sound-absorptive material to prevent radiation of sound from behind the amplifier to the audience.
5. Projection booth interior surfaces should be heavily treated with an incombustible acoustical material.
6. As the average audience is reduced due to a wider spacing of seats for increased customer comfort, additional absorptive materials in the form of interior acoustical finishes must be employed in order to maintain the proper acoustical effect.

The Motion Picture Research Council has made available to anyone interested a complete summary of recommendations covering proper viewing and listening conditions for motion picture exhibitors. With the competition offered by other forms of entertainment today, a second look at the sound conditioning of your theatre could be of great value to you.

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GENERAL THEATRE SUPPLY COMPANY, LTD., 930 8th Avenue S. W., Calgary. Telephone: AMherst 2-4074. PERSONNEL—District Sales and Service Engineer: G. J. Adams. AREA SERVED—Alberta and Northern Sasketchewan.

SHARP'S THEATRE SUPPLIES, LTD., Film Exchange Bldg., Calgary. Telephones: AM 2-4076, AM 2-7266. (Emergency Night) CH 3-0757, AV 9-7578. PERSONNEL—Manager: W. G. Sharp. Service Engineer: A. E. Sick. Salesman: D N. Rhodes. Products Sold: Complete theatre supplies, including Motiograph, strong, National Carbon lines. AREA SERVED—Alberta, Saskatchewan, Eastern British Columbia.

M. L. ADAMSON, 9921 - 113th St. Edmonton.

DOMINION SOUND EQUIPMENT, LTD., 10330 - 104th St., Edmonton. Telephone: 42511. PERSONNEL—Manager: A. T. Linden. Theatre Equip. Sales and Service: D. M. Netterfield. Acoustical Materials Sales: A. T. Linden. AREA SERVED—Northern Alberta and Peace River District, British Columbia.

J. M. RICE & CO., LTD., 10029 Jasper Ave., Edmonton Telephones: 28502—(Emergency Night) 55-7390. PERSONNEL—District Manager: Charles Carphin. AREA SERVED —Alberta and Western Saskatchewan.

BRITISH COLUMBIA

*DOMINION SOUND EQUIPMENTS LTD., 2162 W. 12th Ave., Vancouver, Telephone: BA 5277. PERSONNEL—District Manager: L. G. Sigurdson. Engineer: R. H. Williams Salesman: R. C. Benton. AREA SERVED—British Columbia, Vancouver Island.

DOMINION THEATRE EQUIPMENT CO., LTD., 847 Davie St., Vancouver. Telephone: MU 5-6634.—(Emergency Night) Cherry 3211. PERSONNEL—President: D. V. K. Fairleigh. Sales: R. E. Fairleigh. AREA SERVED—Western Canada, Yukon Territory.

GENERAL THEATRE SUPPLY CO., LTD., 916 Davie Street, Vancouver 1. Telephones: MUtual 5-7933, MUtual 5-5449. PERSONNEL—Branch Manager: A. A. Richardson, Service Engineer: Ray Townsend. AREA SERVED—British Columbia, Yukon Territory.

LA SALLE RECREATIONS, LTD. (Theatre Chair Carpet & Linoleum Div.), 945 Granville St., Vancouver. Telephones: MU 5-5034, MU 5-5428—(Emergency Night) CE 3929. PERSONNEL—President and Managing Director: S. A. Lechtzier. Vice-President: M. R. Lechtzer. AREA SERVED—Entire Dominion of Canada.

THEATRE EQUIPMENT SUPPLY CO. New Film Exchange Bldg., 2182 W. 12th Ave., Vancouver. Telephones: REgent 8-2421. (Emergency Night) KE 8190R. PERSONNEL—Owner: H. I. Howard. Counter Man: E. R. Petch. AREA SERVED—British Columbia, Alberta, Yukon.

MANITOBA

DOMINION SOUND EQUIPMENTS, LTD., 218-222 Fort St., Winnipeg. Telephone: WH 2-3529. PERSONNEL—District Manager: R. R. Huston. Office Supervisor: D. A. MacCready. Sales and Service: W. M. Tulloch, J. J. Zagol, L. G. Keifer. Acoustical Sales: D A. Phillips, D. H. Kunderman. AREA SERVED—Western Ontario, Manitoba, Saskatchewan.

GENERAL THEATRE SUPPLY COMPANY, LTD., 271 Edmonton Street, Winnipeg. Telephone: WHitehall 2-5795. PERSONNEL—District Sales and Service Engineer: Walter Mann. AREA SERVED—Maintoba and Southern Saskatchewan.

J M. RICE & CO., LTD., 710 Broadway Ave., Winnipeg 10. Telephones: SPruce 5-8219—(Emergency Night VE 2-2492. PERSONNEL—President: J. M. Rice. General Manager: J. L. Rice. Sound Engineer: H. E. Kinnear. Salesman: W. Leckie. AREA SERVED—Manitoba, Eastern Saskatchewan, Western Ontario

NEW BRUNSWICK

DOMINION SOUND EQUIPMENTS LTD., 28 Seaton Street, Saint John. Telephones: OXford 3-3031—(Emergency Night) PERSONNEL—Acoustic Salesman: A. N. Heartz, OXford 3-7327. Service Engineer and Salesman: F. W. Burdon. AREA SERVED—New Brunswick and Prince Edward Island.

GENERAL THEATRE SUPPLY CO., LTD., 86 Charlotte St., Saint John. Telephone: OXford 3-2819. PERSONNEL—Branch Manager: Cecil L. Johnston. Office Manager: Thomas H. Dare. AREA SERVED—New Brunswick, Prince Edward Island, Newfoundland.

NEWFOUNDLAND

ATLANTIC FILMS & ELECTRONICS, LTD., 22 Prescott St., St. John's. Telephones: 3071-2-3. PERSONNEL—Managing Director: Alberts Jekste. Sales Manager: Arnis Lucis. Film Distribution: Alice O'Brien. PRODUCTS SOLD: National Theatre Supply Company line. AREA SERVED: Newfoundland.

NOVA SCOTIA

DOMINION SOUND EQUIPMENT LTD., 117 Howe Avenue, Halifax. Telephones: 5-1533-34-35. (Emergency Night 2-3379, 6-6385. PERSONNEL—District Manager: J. McEwan. District Service Manager: C. J. Gilbert. AREA SERVED—Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland.

GENERAL THEATRE SUPPLY CO., LTD., 32 Cedar Street, Halifax. Telephone: 3-1790. PERSONNEL—District Sales and Service Engineer: William Orr. AREA SERVED—Nova Scotia.

ONTARIO

DOMINION SOUND EQUIPMENTS LTD., 1654 Bank Street, Ottawa. Telephone: RE 3-1366. PERSONNEL—Manager: D. E. Neill.

DOMINION SOUND EQUIPMENTS, LTD., 45 Wingold Street, Toronto 19. Telephone: RUssell 1-6161. PERSONNEL—District Manager: D. E. Daniel. Special Products Manager: F. E. Hastie. Salesmen: J. M. Cohoe, L. E. Rice. Theatre Sales Supervisor: E J Blaney Sales and Service: H. R. Hansher, G. E. Clews, A. Young, W. W. Stewart. London District: E. A. Grant. North Bay District: H. Montagnes. AREA SERVED—Ontario.

*Listing Not Confirmed by Supply Dealer.

DOMINION SOUND EQUIPMENTS LTD., 1299 Blvd. Charest West, Quebec, P. Q. Telephone: LA 7-3572. PERSONNEL—Sales Service: Cyrille Goudreault. AREA SERVED—Quebec City area, Lake St. John, North and South Shore of St. Lawrence River.

GENERAL THEATRE SUPPLY CO., LTD., Head Office: 861 Bay St., Toronto 5. Telephone: EMpire 4-2438. PERSONNEL—President and General Manager: Andrew G. Rouse. Purchasing Agent: Walter Raps. Supervisor Projection: T. C. Hoad. Supervisor Sound: K. Reason. Theatre Sales: P. R. Hayes, W. Walterhouse District Sales and Service Engineers: Norman Smith, 1584 Hahsuld, London, A. Bridger, 305 Cedar St., N., Timmins, Ont. AREA SERVED—Ontario, West of Ottawa Valley.

QUEBEC

DOMINION SOUND EQUIPMENTS LTD., 4040 St. Catherine St., W., Montreal 6. Telephone: WEllington 5-5281. PERSONNEL—President and General Manager: F. E. Peters. Manager, Theatre Equipment & Engineering: A. D. Turnbur. District Manager: H. S. Walker. Product Manager: P L. Keppie. Salesmen: J. M. Laliberté, J. J. Kilcullen

THE ROBERT SIMPSON COMPANY, LTD., Contract Division, 45 Richmond Street West, Toronto 1. PERSONNEL—General Manager, All Branches: L. E. Wicklum. Manager, Western Branches: R. H. Dickson. Salesmen: E. W. Bryant, Toronto; S. S. Murphy, Halifax; M. Girard, Montreal; R. W. Reid, London; J. C. G. Hood, Winnipeg; D. Patrick, Regina; H. Krahn, Saskatoon; R. G. Webber, Calgary; R A. Harris, Edmonton; R. H. Dickson, Vancouver. AREA SERVED—Dominion of Canada.

RCA VICTOR COMPANY, LTD., 1001 Lenior Street, Montreal 30. Telephone: WEllington 3-7551. PERSONNEL—Vice-President and General Manager: J. D. Houlding. President: P. J. Casella. Vice President, Consumer Products: R. M. Macrae. General Manager, Technical Products: J. Sutherland. Products Sold: 16mm movie projectors, sound equipment. AREA SERVED: Branch offices in Halifax, Quebec, Montreal (Royalmount), .Ottawa, Toronto, Winnipeg, Calgary, Edmonton, Vancouver. Distributors: A. A. Murphy & Sons, Saskatoon, Sask., W. Ouellet et Fils, Rimouski, Quebec.

GENERAL THEATRE SUPPLY CO, LTD., 160 Bates Road, Montreal 8. Telephone: REgent 9-2437. PERSONNEL—Service Engineer: P. Gaillard. Theatre Sales: Roland Bosquet. Office Manager: L. J. Davis. District Sales and Service Engineer: J. H. Hewson, 41 Belmont Ave, Ottawa, Ont. AREA SERVED—Quebec, Ottawa Valley of Ontario.

SASKATCHEWAN

DOMINION SOUND EQUIPMENTS LTD., 1553 Albert St., Regina. Telephone: JO 9-5454. PERSONNEL—Branch Manager: L. B. Cogger. Sales and Service: L. G. Kiefer. AREA SERVED—Saskatchewan.

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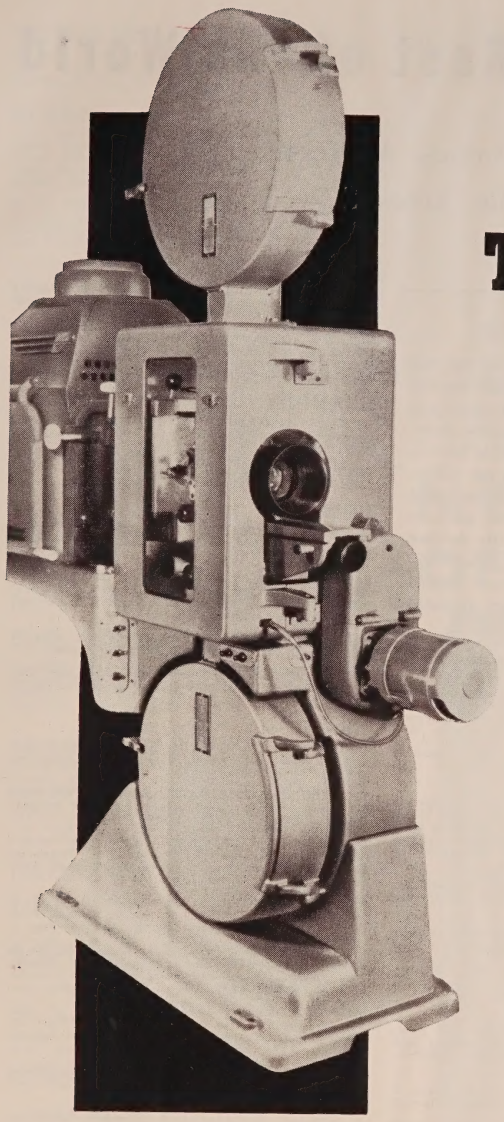

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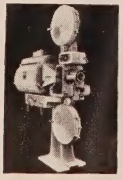	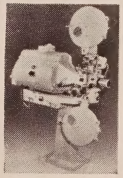	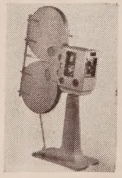	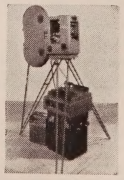	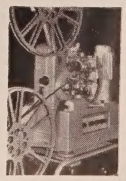

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Comprehensive Listing of Names, Addresses, Personnel, Products, and the Areas Served

ADEN

A. BESSE AND COMPANY (ADEN), LTD., Aden. Products Sold: Philips Projection and Sound Equipment.

AFGHANISTAN

S. FAZAL AND COMPANY, Déh Afghanan, Kabul. Products Sold: Philips Projection and Sound Equipment.

ALGERIA

COMPTOIR CINEMATOGRAPHIQUE NORD-AFRICAN. 6 Rue d'Isly, Algiers. PERSONNEL—Agent: R. Loiseau. Products Sold: National Theatre Supply Company Line. S. A. PHILIPS NORD-AFRICAINE, Immeuble Mauretania, Carrefour de l'Agha, Algiers. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, FRANCE-BELGIUM, 47 Rue Michelet, Algiers. PERSONNEL—Manager: A. C. Lenoel. Products Sold: Westrex Corporation line. AREA SERVED—Algeria, Tunisia, and Morocco.

WESTREX COMPANY, FRANCE-BELGIUM, Impasse Thierry, Oran. Products Sold: Westrex Corporation line.

ARGENTINA

COMPANIA COMERCIAL CONDOR, Sarmiento 2149, Buenos Aires. PERSONNEL—Carlos Glucksmann. Products Sold: National Theatre Supply Company line.

PHILIPS ARGENTINA, S.A., Cailla de Correo 3479, Buenos Aires. Products Sold: Philips Projection and Sound Equipment.

RCA VICTOR ARGENTINA, P. O. Box 4400, Bme. Mitre 1961, Buenos Aires. Products Sold: Theatre and Sound Equipment, Sound Recording Equipment, Theatre Television.

SOCIEDAD ARGENTINA DE IMPORTACION E.M. ETCHEGOIN, Maipu 639-641, Buenos Aires. Products Sold: Gaumont-Kalee line.

WESTREX COMPANY, ARGENTINA, Rodriquez Pena 370, Buenos Aires. PERSONNEL—Manager: R. J. Hortis. Products Sold: Westrex Corporation line. AREA SERVED—Argentina, Paraguay, Uruguay.

AUSTRALIA

NATIONAL THEATRE SUPPLY COMPANY OF AUSTRALASIA, PTY., LTD., 315 King William St., Adelaide, South Australia. Telephone: La 3742. PERSONNEL—Manager: J. P. Wright. Products Sold: Gaumont-Kalee.

WESTREX AUSTRALIA PTY., LTD., 62 Rundle St., Adelaide, South Australia. Products Sold: Westrex Corporation line. AREA SERVED—State of South Australia.

NATIONAL THEATRE SUPPLY COMPANY OF AUSTRALASIA, PTY., LTD., Film Centre, 164-168 Melbourne St., S. Brisbane, Queensland. Telephone: J5831. PERSONNEL—General Manager: J. A. Welch. Products Sold: Gaumont-Kalee.

WESTREX AUSTRALIA PTY., LTD., 70A Stanley St., S. Brisbane, Queensland. Products Sold: Westrex Corporation line. AREA SERVED—State of Queensland.

WESTREX AUSTRALIA PTY., LTD., 38 Elizabeth St., Hobart, Tasmania. Products Sold: Westrex Corporation line. AREA SERVED—Tasmania.

WESTREX AUSTRALIA PTY., LTD., 358 Lonsdale St., Melbourne, Victoria. Products Sold: Westrex Corporation line. AREA SERVED—State of Victoria.

GAUMONT-KALEE THEATRE SUPPLIES, 178-A Flinders St., Melbourne C.1., Victoria. Telephones: MF 2935, MF 2087. PERSONNEL—Manager: M. E. Lightfoot. Products Sold: Gaumont-Kalee, Roycophone. AREA SERVED—Victoria.

WESTREX AUSTRALIA PTY., LTD., 24 Hunter St., Newcastle, New South Wales. Products Sold: Westrex Corporation line. AREA SERVED—State of New South Wales.

*CONSOLIDATED THEATRES PTY., LTD., W.A.T.C. Building, 1 Howard St., Perth, Western Australia. Telephone: BF 2222. PERSONNEL—Managing Director: R. A. Yelland. Secretary: I. E. Furby. Products Sold: Theatre Seats, Equipment.

WESTREX AUSTRALIA PTY., LTD., 447 Murray St., Perth, West Australia. Products Sold: Westrex Corporation line. AREA SERVED—State of West Australia.

PHILIPS ELECTRICAL INDUSTRIES PTY., LTD., Head Office: 69-73 Clarence St., Sydney. Products Sold: Philips Projection and Sound Equipment. AREA SERVED—Australia.

EDITOR'S NOTE

Every effort has been made by the staff of THEATRE CATALOG to make the following listings of foreign supply dealers as accurate and up-to-date as possible. However, it has not been possible to achieve a high degree of uniformity in the entries.

With the assistance of the international manufacturers and distributors, we have been able to secure exceptionally detailed information about their outlets. Other dealer listings which have not been verified specifically for this Edition are indicated by an asterisk (*).

NATIONAL THEATRE SUPPLY COMPANY OF AUSTRALASIA, PTY., LTD., Film House, 251A Pitt St., Sydney, New South Wales. Cable Address: Vitavox—Sydney. Telephone: BO663. PERSONNEL—General Manager: A. L. Graham. General Sales Manager: R. C. Smith. Products Sold: Gaumont-Kalee. AREA SERVED—Australia, Tasmania.

*RAYMAC SUPPLIES PTY., LTD., 230 and 270 Elizabeth St., P. O. Box 3787, G. P. O. Sydney, New South Wales. PERSONNEL—Managing Director: R. E. McIntosh Products Sold: Raymac Theatre and Sound Equipment, sole Australian agent for Lorraine Carbons. AREA SERVED—Australia, Pacific Isles, Malaya, Ceylon.

RCA of AUSTRALIA, PTY., LTD., 221 Elizabeth St., Sydney, New South Wales. Products Sold: Theatre and Sound Equipment.

WESTREX AUSTRALIA PTY., LTD., Head Office of Area: Broughton House, 181 Clarence St., Sydney, New South Wales. PERSONNEL—Manager: W. E. K. Ollymer. Products Sold: Westrex Corporation line. AREA SERVED—Australia.

AUSTRIA

ELECTRO ACUSTIC GMBH, Mariahilferstrasse 37, Vienna VI. PERSONNEL—Ingl.: Fritz Strohmaier. Products Sold: National Theatre Supply Company line. AREA SERVED—Austria.

PHILIPS, G.M.B.H., Schwarzenbergplatz 2, Vienna I. Products Sold: Philips Projection and Sound Equipment.

E. SCHRACK ELEKTRIZITATS A. A., Pottendorferstrasse 25-27, Vienna XII/87. Products Sold: RCA Cinema Equipment, 35 mm.

BELGIAN CONGO

PHILIPS CONGO, S.C.R.L., Leopoldville. Products Sold: Philips Projection and Sound Equipment.

BELGIUM

BRITISH EQUIPMENT, S. A., 199 Rue Royale, Brussels. Telephones: 17.78.16, 17.39.17. PERSONNEL—Managing Director: Capt. R. H. Eliot, M.C. Technical Department: Pierre Koob. General Sales: Michael Cledes. 35mm. Sales: Maurice De Cuyper. Products Sold: Gaumont-Kalee, Bell and Howell, Ship Cinema Carbons. AREA SERVED—Belgium, Belgian Congo, Luxembourg.

BROCKLISS SIMPLEX, S.A., 211 Rue Royale, Brussels. Products Sold: National Theatre Supply Company line. AREA SERVED—Belgium, Luxembourg.

*FIBROCIT, 26 Rue Masui, Brussels. Products Sold: Theatre Seats.

PHILIPS, S.A., 37-39 Rue d'Anderlecht, Brussels. Products Sold: Philips Projection and Sound Equipment.

SOCIETE ANONYME INTERNATIONALE DE TELEGRAPHIE SANS FIL, 25 Boulevard du Regent, Brussels. Product Sold: RCA Cinema Equipment, 16mm and 35mm. AREA SERVED—Belgium, Belgian Congo.

*Listing Not Confirmed by Supply Dealer.

SOCIETE BELGE INDUSTRIELLE, S.A., 14 Square Marie-Louise, Brussels. Products Sold. RCA Theatre and Sound Equipment.

WESTREX COMPANY, FRANCE-BELGIUM, Place des Martyrs 16, Brussels. PERSONNEL—Manager: G. F. Van Weyenbergh. Products Sold: Westrex Corporation line. AREA SERVED—Belgium and Luxembourg.

BERMUDA

BERMUDA GENERAL THEATRES, LTD., Hurstholme, Hamilton. Products Sold: National Theatre Supply Company line.

BURNABY, LTD., Victoria Street, Hamilton. Products Sold: RCA Cinema Equipment, 16mm and 35 mm.

BOLIVIA

COMMERCIO INDUSTRIAL BOLIVIANA, S.A. Casilla de Correo 1867, 2670, La Paz. Products Sold: Gaumont-Kalee line.

PALACIOS Y CIA., S.A., Head Office: Casilla de correo 648, La Paz. Branches at: Oruro, Cochabamba, Potosi, Sucre, Tarija, Santa Cruz. Products Sold: National Theatre Supply Company line.

P. L. SCHUURMANS, Casilla 1609, La Paz. Products Sold: Philips Projection and Sound Equipment.

S. A. C. I., Suers. de Simon F. Bedoya, Casilla 346, La Paz. Products Sold: RCA Theatre and Sound Equipment.

BRASIL

CINE-TELEVISAO, S.A., Rua Dr. Flores 197, Porto Alegre. Products Sold: Sole Agent, Rank Precision Industries, Ltd.

TECNICO COMERCIAL GATIO, LTDA., Rua Concordia 668, Recife. Products Sold: Sole Agent, Rank Precision Industries, Ltd.

COMPANHIA BLACK, Import-Export, Rua Mexico 11/202, Rio de Janeiro. P.O. Box 5124. Telephones 52-1672, 52-1473. Telegrams: "Rioblack." Products Sold: Sole Agent, Rank Precision Industries, Ltd.

R. EKERMAN, IMPORTACAO E COMERCIO MUNRAU, SA, Rua Senador Dantas 76-15°, Rio de Janeiro. Products Sold: National Theatre Supply Company line.

RCA VICTOR RADIO, S.A., Caixa Postal 2726, Rio de Janeiro. PERSONNEL—Theatre Dept. Mgr.: J. Wasser. Products Sold: Theatre and Sound Equipment. Branches: S. Paulo, Recife, Porto Alegre, Belo Horizonte.

WESTREX COMPANY, BRAZIL, Head Office of Area: Rua Juan Pablo, Duarte 38, Rio de Janeiro. PERSONNEL—Manager: Jay Cuevas. Products Sold: Westrex Corporation line. AREA SERVED—Brazil.

COMPANHIA BLACK, Import-Export, Rua Conselheiro Nebias 263, 2 Andar, Sao Paulo. Products Sold: Sole Agent, Rank Precision Industries, Ltd.

R. EKERMAN, IMPORTACAO E COMERCIO MUNRAU, SA, Rue Conselheiro Nebias 263-1°, Sao Paulo. Products Sold: National Theatre Supply Company line.

S. A. PHILIPS DO BRAZIL, Caixa Postal 8681, Sao Paulo. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY,, BRAZIL, Rua dos Guaianazes #153, Sao Paulo. Products Sold: Westrex Corporation line. AREA SERVED—Sao Paulo District.

BRITISH EAST AFRICA

TWENTSCHE OVERSEAS TRADING COMPANY, LTD., Nairobi, Tanga, Mombasa, Kampala, Dar-es-Salaam, Zanzibar. Products Sold: Philips Projection and Sound Equipment.

BRITISH GUIANA

BOOKERS STORES LTD., Bookers Garage, (Radio Department), 13-15 Water Street, Georgetown (Demerara). Products Sold: Philips Projection and Sound Equipment.

MANDEL I. JARDIN, 118 Cowan St., Georgetown. Products Sold: Westrex Corporation line.

WIETING AND RICHTER, LTD., Mundy Street, 40, Georgetown (Demerara). Products Sold: Gaumont-Kalee line.

BRITISH HONDURAS

MACMILLAN BROTHERS, Belize. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Colony of British Honduras.

BRITISH NEW GUINEA

ROBERT GILLESPIE (N. G.), LTD., Rabaul. Products Sold: Philips Projection and Sound Equipment. AREA SERVED—Territory of New Guinea.

BURMA

CINE SUPPLY COMPANY, 264 Barr St., Rangoon. Telephone: South 546. PERSONNEL—Managing Partner: Vijay Kumar. Products Sold: RCA Theatre and Sound Equipment, Ross Projectors, Premier accessories. COUNTRY SERVED—Union of Burma.

G. K. THEATRE SUPPLY COMPANY, LTD., 123 Sule Pagoda, Rangoon. Telephone: S-653. Products Sold: Gaumont-Kalee, Typhoon Air Conditioning Units, Bell and Howell. AREA SERVED—Union of Burma.

TRADING COMPANY LATE HEGT AND COMPANY, LTD., 36, Barr St., P.O. Box 200, Rangoon. Products Sold: Philips Projection and Sound Equipment.

CEYLON

CEYLON SERVICE AND SUPPLIES COMPANY, LTD., P. O. Box 89, Colombo. Products Sold: RCA Cinema Equipment, 16mm.

CEYLON THEATRES, LTD., 8 Parsons Road, Colombo. PERSONNEL—Chairman: Sir Chittampalam A. Gardiner. Products Sold: Gaumont-Kalee, Bell and Howell, Kershaws.

WESTREX COMPANY, INDIA, Iceland Buildings, Galle Road, Colombo 3. PERSONNEL—Depot Manager: R. H. L. Karunaratne. Products Sold: Westrex Corporation line. AREA SERVED—Ceylon.

CHILE

CORPORACION DE RADIO DE CHILE, S.A., Casilla 1407, Santiago. Products Sold: RCA Theatre and Sound Equipment.

OSSA AND MAX, Casilla 9820, Santiago. Products Sold: National Theatre Supply Company line. AREA SERVED—Chile.

PHILIPS CHILENA, S.A., Casilla 2687, Santiago. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, ANDEAN, Edificio Sud America, Bandera Esquina Augustinas, Santiago. PERSONNEL—Manager: M. C. Hayes. Products Sold: Westrex Corporation line. AREA SERVED—Chile.

CHINA (FORMOSA)

FAR EASTERN COMPANY, No. 6 Nanyang Street, Taipei, Taiwan. PERSONNEL—Manager: S. L. Woe. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

CHARLES S. JOE, International House, Section 3, Hsin Yee Road, Taipei. Products Sold: Westrex Corporation line. AREA SERVED—Formosa.

COLOMBIA

CINE COLOMBIA, S.A., Medellin. Products Sold: Gaumont-Kalee line.

J. GLOTTMANN, S.A., Carrera 13 #24-15, Bogota. PERSONNEL—President: Jack Glottmann. Products Sold: National Theatre Supply Company line and RCA Theatre and Sound Equipment.

PHILIPS COLOMBIANA, S.A., Apartado, Aereo 4282, Bogota. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, CARIBBEAN, Carrera 5A, No. 19-40, Bogota. PERSONNEL—Manager: D. L. Smith. Products Sold: Westrex Corporation line. AREA SERVED—Columbia.

COSTA RICA

IMPORTADORA FILMICA COMERCIAL, LTDA., Apartado Correo 939, San Jose. PERSONNEL—Owner and Managing Director: Carlos Fc. Jinesta. Owner and Manager: Charles G. Bertsch. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Costa Rica.

PAN AMERICAN TRADING COMPANY, LTD., Apartado 2018, San Jose. PERSONNEL—Owner and Manager: Francisco Pena. Products Sold: National Theatre Supply Company line. AREA SERVED—Nicaragua, Guatemala, Costa Rica.

PHILIPS DE COSTA RICA, LTD., P. O. Box 4325, San Jose. Products Sold: Philips Projection and Sound Equipment.

JOSE RAVENTOS, Apartado 1147, San Jose. Products Sold: RCA Theatre and Sound Equipment.

*DOMINGO VARGAS A., P. O. Box 3675, San Jose. Products Sold: Projection and Sound Equipment. AREA SERVED—Costa Rica.

CUBA

(See WEST INDIES)

CYPRUS

CYPRUS COMMERCIAL COMPANY, P. O. Box 208, Nicosia. Products Sold: Westrex Corporation line. AREA SERVED—Cyprus.

D. OUZOUNIAN, M. SOULTANIAN AND COMPANY, LTD., P. O. Box 775, Nicosia. Products Sold: Philips Projection and Sound Equipment.

A. Y. TILBIAN & SONS (Fotokine, Ltd.), P. O. Box 266, Nicosia. Products Sold: Gaumont-Kalee line.

DENMARK

BANG & OLUFSON, A.S., Bredgade 34, Copenhagen. Telephone: BN 9320. Products Sold: Philips Projection Equipment.

NORDISK KINOTEKNIK A/S, Borgergade 10, Copenhagen K. Telephone: Central 8989. Products Sold: Gaumont-Kalee, Ship Carbons, Stage Lighting Equipment.

WESTREX COMPANY, A/A, Vesterport 481, Copenhagen. Telephone: Central 5598. PERSONNEL—Manager: C. Nygaard. Products Sold: Westrex Corporation line. AREA SERVED—Denmark.

DOMINICAN REPUBLIC

CLAUDIO FERNANDEZ, Apartado 826, Ciudad Trujillo. Products Sold: RCA Theatre and Sound Equipment.

JOAQUIN GINEBRA, Apartado 902, Ciudad Trujillo. Products Sold: National Theatre Supply Company line. AREA SERVED—Dominican Republic.

*Listing Not Confirmed by Supply Dealer.

ECUADOR

ELECTRONICA, S.A., Apartado 3509, Guayaquil. PERSONNEL—Owner and Director: Luigi Rota. Manager: Emilio Bini. Products Sold: National Theatre Supply Company line and RCA Theatre and Sound Equipment. AREA SERVED—Coast Zone of Ecuador.

WESTREX COMPANY, ANDEAN, Boyaca No. 1011, Guayaquil. PERSONNEL—Manager: R. Diaz. Products Sold: Westrex Corporation line. AREA SERVED—Ecuador.

PHILIPS ECUADOR, S.A., Casilla 2376, Quito. Products Sold: Philips Projection and Sound Equipment.

SOCIEDAD RADIOTECNICA ECUATORIANA, Apartado 414, Quito. PERSONNEL—Owner and Director: Lugi Rota. Managers: Ing. Igilio Perotti, Lic. Fabián Buchell. Products Sold: National Theatre Company Supply line and RCA Theatre and Sound Equipment. AREA SERVED—Ecuador.

EGYPT

(See UNITED ARAB REPUBLIC)

ETHIOPIA

PHILIPS (ETHIOPIA), S.A., P. O. Box 569, Addis Ababa. Telephone: 2771. Products Sold: Philips Projection and Sound Equipment.

SABEAN UTILITY CORPORATION, LTD., P. O. Box No. 795, Addis Ababa. Products Sold: Westrex Corporation

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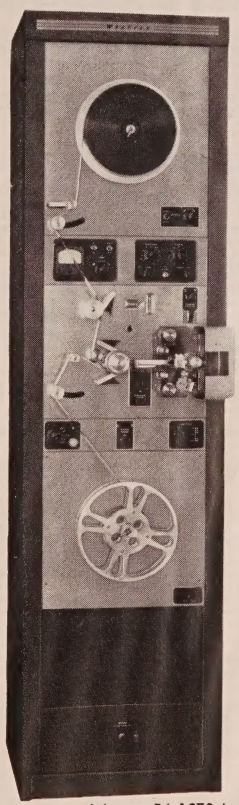

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line. AREA SERVED—Ethiopia.

FEDERATION OF MALAYA

(See SINGAPORE)

FINLAND

G. W. BERG AND COMPANY, 14 Fabiansgatan, Helsinki.

PARVIS FILMI, P. O. Box 279, Helsinki. Products Sold: Gaumont-Kalee line.

OY PHILIPS AB, Box 255, Helsinki. Products Sold: Philips Projection and Sound Equipment.

FORMOSA

(See CHINA)

FRANCE

(See Separate Entry for ALGERIA)

BROCKLISS SIMPLEX, S.A., 295 Cours de la Somme, Bordeaux. Products Sold: National Theatre Supply Company line.

BROCKLISS SIMPLEX, S.A., 102 La Canebiere, Marseille. Manager: Henri Barody. Products Sold: National Theatre Supply Company line.

WESTREX COMPANY, FRANCE - BELGIUM, 3 Cours Joseph Thiedry, Marseille. Products Sold: Westrex Corporation line. AREA SERVED—Southern France.

BROCKLISS SIMPLEX, S.A., 6 Rue Guillaume Tell, Paris 17. Head Office. PERSONNEL—General Manager: Albert Gillet. Branches: Bordeaux, Marseilles, Lille, France; Brussels, Belgium. Agents: Algiers, Algeria; Casablanca, Morocco; Bienne, Switzerland. Products Sold: National Theatre Supply Company line. AREA SERVED—France, French Colonies, Switzerland, Belgium.

S. A. PHILIPS ECLAIRAGE ET RADIO, 11, Rue Edouard Nortier, Paris. Products Sold: Philips Projection and Sound Equipment.

STE. DES THEATRES CINEMATOGRAPHIQUES PATHE, S.A., 6 Rue Francoeur, Paris 18. PERSONNEL—J. Ottoz. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Algiers, France.

SPECIALTIES TIRANTY, S.A., 106-108 Boulevard Hausman, Paris. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

WESTREX COMPANY, FRANCE-BELGIUM, Head Office of Area: 120 Avenue des Champs Elysees, Paris. PERSONNEL—Manager: J. P. Winter. Products Sold: Westrex Corporation line. AREA SERVED—France.

GERMANY

DEUTSCHE PHILIPS Gm.b.H., Mönckebergstrasse 7 (24a) Hamburg 1. Products Sold: Philips Projection and Sound Equipment.

OBERING GEORGE HEINECKE, Tengstrasse 15, Munich 13. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

GHANA

SOCIETE COMMERCIALE DE L'OUEST-AFRICAIN, Accra. Products Sold: Philips Projection and Sound Equipment.

GREAT BRITAIN

North (Incl. Northern Ireland)

A. BUCKLEY, "Wheatcroft," Purlwell Lane, Batley, Yorkshire. Telephones: Batley 431, Morley 902. Products Sold: Zippa and Branson Change-overs; exporter of new and used theatre equipment.

AUTOMATICKET, LTD., 29-31 Ocean Buildings, Donegal Street East, Belfast. Products Sold: Tickets, Ticket Issuing and Recording Machines.

G. B.—KALEE, 46 Howard St., Belfast. Telephone 27065. PERSONNEL—Manager: A. Reynolds. Products Sold: Gaumont-Kalee Sound Equipment and Furnishing. AREA SERVED—Northern Ireland.

RCA GREAT BRITAIN, LTD., 58 Howard St., Belfast. Telephone: 24762. PERSONNEL—Northern Ireland and Republic of Ireland Manager: N. J. Railton. Products Sold: RCA Theatre and Sound Equipment.

BTH SOUND EQUIPMENT, LTD., 108 Renfield Street, Glasgow. Products Sold: BTH Projectors and Reproducers, Mazda Xenon 35mm Lamps and Lighthouses, General Theatre Supplies.

J. FRANK BROCKLISS, LTD., 181 Howard St., Glasgow, C. I. PERSONNEL—Branch Manager: E. Dobbing. Products Sold: National Theatre Supply Company line and Philips Projection and Sound Equipment.

G. B.-KALEE, 121 West Regent Street, Glasgow. PERSONNEL—Managers: Ferguson, J. Paterson. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—Scotland.

PATERSON (GLASGOW) LTD., 79 Howard St., Glasgow. Products Sold: Seating, curtains, floor coverings.

PATHE EQUIPMENT, LTD., 68 Bath St., Glasgow. Products Sold: Ross: Projection Equipment, Dawson's Seating, General Theatre Equipment and Supplies.

RCA GREAT BRITAIN, LTD., 58 W. Regent St., Glasgow. Telephone: Douglas 4712. PERSONNEL—District Manager: A. Lees. Products Sold: Theatre and Sound Equipment.

STAGE FURNISHINGS, LTD., 346 Sauchiehall St., Glasgow C. 2. Telephone: Douglas 6431. Products Sold: Strand Electric and Engineering Company line.

WESTREX COMPANY, LTD., 141 Bath St., Glasgow, C. 2. Products Sold: Westrex Corporation line.

AUTOMATICKET, LTD., 2 Fraser Street, Liverpool. Products Sold: Tickets, Ticket Issuing and Recording Machines.

G. B. KALEE, 14 Tithebarn Street, Liverpool. Telephone: Central 8956. PERSONNEL—Manager: F. Jordan. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—North Wales and part of North West England.

AUTOMATICKET, LTD., 12 New Bridge Street, Newcastle-on-Tyne. Products Sold: Tickets, Ticket Issuing and Recording Machines.

CROWE & COMPANY, LTD., 52 Stowell St., Newcastle-on-Tyne. Products Sold: National Theatre Supply Company line.

G. B.—KALEE, 60 Blenheim Street, Newcastle-on-Tyne. Telephone: Newcastle 23038. PERSONNEL—Manager: W. Yeomans. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—Northumberland, Durham, Cumberland, North Yorkshire.

RCA GREAT BRITAIN, LTD., 36 Clayton St. W., Newcastle-on-Tyne. Telephone: Newcastle 27771. PERSONNEL—District Manager: R. T. Wheatley. Products Sold: Theatre and Sound Equipment.

WESTREX COMPANY, LTD., 1 Charlotte Square, Newcastle-on-Tyne. Products Sold: Westrex Corporation line.

PATHE EQUIPMENT, LTD., 28 Leinster Road, Swinton, Lancs. Products Sold: Ross Projection Equipment, Dawson's Seating, General Theatre Equipment and Supplies.

Midlands

AUTOMATICKET, LTD., Fletcher Chambers, Fore Street, Birmingham. Products Sold: Tickets, Ticket Issuing and Recording Machines.

BTH SOUND EQUIPMENT, LTD., 10 Hospital Street, Birmingham. Products Sold: BTH Projectors and Reproducers, Mazda Xenon 35mm Lamps and Lighthouses, General Theatre Supplies.

J. FRANK BROCKLISS, LTD., 27 John Bright St., Birmingham. PERSONNEL—Branch Manager: A. B. Boulton. Products Sold: National Theatre Supply Company line and Philips Projection and Sound Equipment.

G. B.—KALEE, 45 Newhall St., Birmingham. Telephone: Central 5927. PERSONNEL—Manager: Harold A. Richardson. Divisional Engineer: H. E. Munslow. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—The Midlands.

RCA GREAT BRITAIN, LTD., 164 Stratford Road, Shirley, Birmingham. Telephone: Shirley Birmingham 1819. PERSONNEL—District Manager: S. J. C. Taylor. Products Sold: Theatre and Sound Equipment.

*THEATRE SEATS, LTD., 160 Cape Hill, Smethwick, Birmingham.

W. W. TURNER & COMPANY, LTD., Station Road, Northfield, Birmingham 31. Products Sold: Theatre Seats, Carpets, Curtains.

WESTREX COMPANY, LTD., 49 Broad St., Birmingham. Products Sold: Westrex Corporation line.

AUTOMATICKET, LTD., 2 Park Square, Leeds. Products Sold: Tickets, Ticket Issuing and Recording Machines.

BTH SOUND EQUIPMENT, LTD., 67 Britannia House, Leeds. Products Sold: BTH Projectors and Reproducers, Mazda Xenon 35mm Lamps and Lighthouses, General Theatre Supplies.

J. FRANK BROCKLISS, LTD., 67 Britannia House, Wellington St., Leeds. Telephone: Leeds 24509. PERSONNEL—Branch Manager: W. D. Raphael. Products Sold: National Theatre Supply Company line and Philips Projection and Sound Equipment. AREA SERVED—Yorkshire, Lincolnshire, Nottinghamshire, Derbyshire.

G. B.—KALEE, 17 Wellington St., Leeds. PERSONNEL—Manager: Dennis V. Sumpter. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—Yorkshire.

PATHE EQUIPMENT, LTD., 2 Britannia House, Leeds. Products Sold: Ross Projection Equipment, Dawson's Seating, General Theatre Equipment and Supplies.

FRED V. STEELE, LTD., (Incorporating Provincial Cinematograph Trading Company), 7 Stainburn Drive, Leeds 17. Telephone: Leeds 68-2852. PERSONNEL—A. R. Steele. Products Sold: Projection, Sound, and General Theatre Equipment. AREA SERVED—Yorkshire, Lancashire, Nottinghamshire.

WESTREX COMPANY, LTD., Wellington Chambers, Wellington Street, Leeds 1. Products Sold: Westrex Corporation line.

AUTOMATICKET, LTD., 21 Spring Gardens, Manchester. Products Sold: Tickets, Ticket Issuing and Recording Machines.

*Listing Not Confirmed by Supply Dealer.

BTH SOUND EQUIPMENT, LTD., 4 Whitworth Street, Manchester. Products Sold: BTH Projectors and Reproducers, Mazda Xenon 35mm Lamps and Lighthouses, General Theatre Supplies.

J. FRANK BROCKLISS, LTD., 3, The Parsonage, Manchester. PERSONNEL—Branch Manager: W. Chilton. Products Sold: National Theatre Supply Company line and Philips Projection and Sound Equipment.

G. B.—KALEE, Parsonage Buildings, 4 St. Mary's Parsonage, Manchester. Telephone: Blackfriars 1428. PERSONNEL—Branch Manager: Harry Mould. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—East, West, and South Lancashire; part of Cheshire.

RCA GREAT BRITAIN, LTD., 274 Deansgate, Manchester. Telephone: Blackfriars 7092. PERSONNEL—District Manager: A. J. Bush. Products Sold: Theatre and Sound Equipment.

WESTREX COMPANY, LTD., 1 North Parade, Deansgate, Manchester 3. Products Sold: Westrex Corporation line.

AUTOMATICKET, LTD., 11 Wellington Circus, Nottingham. Products Sold: Tickets, Ticket Issuing and Recording Machines.

FOSTER (DECORATIONS & CURTAINS) LTD., 375 Westdale Lane West, Nottingham. Product Sold: Specialists in Theatre Decoration, Draperies, Joinery.

W. J. FURSE & COMPANY, LTD., Traffic Street, Nottingham. Products Sold: Stage Lighting, Curtains, Curtain Tracks, Color Changing Dimming Equipment.

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L. B. LOCKWOOD & COMPANY, LTD., Newall St., Bradford. Products Sold: Carpets, Seating, Curtains.

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AUTOMATICKET, LTD., 7 High Street, Cardiff. Products Sold: Tickets, Ticket Issuing and Recording Machines.

G. B.—KALEE, 67 Queen St., Cardiff, Wales. Telephone: 20261/2. PERSONNEL—Branch Manager: R. H. Evans. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—South Wales and West of England.

PATHE EQUIPMENT, LTD., 856 Newport Road, Rumney, Cardiff. Products Sold: Ross Projection Equipment, Dawson's seating, General Theatre Equipment and Furnishings.

RCA GREAT BRITAIN, LTD., 57-59 Charles St., Cardiff. Telephone: Cardiff 30194. PERSONNEL—District Manager: J. H. Welch. Products Sold: Theatre and Sound Equipment.

WESTREX COMPANY, LTD., 10 Museum Place, Cardiff. Products Sold: Westrex Corporation line.

WALTURDAW CINEMA SUPPLIES (1952) LTD., 22 High St., Kingston-on-Thames, Surrey. PERSONNEL—Directors: H. E. Driscoll, H. R. Taylor. Products Sold: Projectors, Sound Equipment, Dimmers, Dimmer Boards, Resistances.

AUTOMATICKET, LTD., Head Office: 197 Wardour Street, London, W.1. Telephone: Gerrard 3482-8. PERSONNEL—General Manager: R. D. Roper. Products Sold: Tickets, Ticket Issuing and Recording Machines.

BTH SOUND EQUIPMENT, LTD., Head Office: Great Newport St., London, W.C.2. Products Sold: BTH Projectors and Reproducers, Mazda Xenon 35mm Lamps and Lighthouses, General Theatre Supplies.

J. FRANK BROCKLISS, LTD., 167/169 Wardour St., London, W.1. PERSONNEL—Owner: J. Frank Brockliss. Director and Manager: F. E. Durban. Products Sold: National Theatre Supply Company line and Philips Projection and Sound Equipment. AREA SERVED—All of Europe.

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G. B. KALEE, 37 Mortimer Street, London, W. 1. Telephone: Museum 5432. PERSONNEL—Manager: L. Dawson. Products Sold: Gaumont-Kalee Sound Equipment and Furnishings. AREA SERVED—London and South East England.

GENERAL BUILDING AND THEATRE EQUIPMENT, LTD., Stoll Offices, London Coliseum, London, W.C.2. Telephone: Temple Bar 1500. PERSONNEL—General Manager: Charles Pickett. Products Sold: Complete Theatre Equipment and Supplies.

THE KINEMATOGRAPH EQUIPMENT COMPANY, LTD., 123 Regent Street, London, W.L. Telephone: Gerrard 5102. Products Sold: Projection Room Equipment, Theatre Furnishings, Seating, Draperies.

H. LAZARUS & SON, LTD., 49-51 Curtain Road, London, E.C.2. Products Sold: Theatre Seats, Carpets, Floor Coverings, Draperies, Stage Equipment.

GEORGE PALMER, LTD., 89 Wardour Street, London, W.I. Proprietor: Frederick G. Palmer, Ltd. Products Sold: Projection and electrical equipment.

PATHE EQUIPMENT, LTD., 177 Wardour Street, London, W. J. Telephone: Gerrard 1544. PERSONNEL—Managing Director: H. P. Dawson. Products Sold: Ross Projection Equipment, Dawson's Seating, General Theatre Equipment and Furnishings.

RANK PRECISION INDUSTRIES, LTD., G. B.-KALEE DIVISION, Head Office: 37-41 Mortimer Street, London, W.I. Telephone: Museum 5432. PERSONNEL—Home Sales Manager: M. W. Beer. Export Manager: R. W. Potter. Products Sold: Gaumont-Kalee Projection and Sound Equipment, and Theatre Furnishings, "Ship" Carbons. AREA SERVED—Entire World.

ROBERT RIGBY, LTD., Premier Works: Northington St., London, W.C.I. Telephone: Holborn 2944. Products Sold: Premier Slide Projectors, Spot Lights, Film Splicers, Fire Shutters, Theatre and Projection Accessories.

SOUND & SCENE SERVICE (LONDON), LTD., 145 Wardour St., London, W.I. Telephones: Gerrard 7238. PERSONNEL—Managing Director: S. Goldwater. Products Sold: Projectors, Sound Systems, Screens, Seating, Furnishings, Accessories.

STRAND ELECTRIC AND ENGINEERING COMPANY, LTD., Head Office: 29, King Street, London W. C. 2. PERSONNEL—Directors: J. D. H. Sheridan, S. E. Earnshaw, H. M. Cotterill, H. W. Myers, L. G. Applebee. Branches: Manchester, Glasgow, Dublin.

WESTREX CO., LTD., Head Office of Area: 152 Coles Green Road, London, N.W. 2. PERSONNEL—Manager: H. L. Marsterson. Products Sold: Westrex Corporation line. AREA SERVED—Great Britain and Ireland.

WESTREX COMPANY, LTD., Foubert's Place, Regent St., London, W1. Products Sold: Westrex Corporation line.

W. W. TURNER & COMPANY, LTD., 28 Newman St., London, W.I. Products Sold: Theatre Seats, Carpets, Curtains.

RCA GREAT BRITAIN, LTD., Head Office: Lincoln Way, Windmill Road, Sunbury-on-Thames, Middlesex. Telephone: Sunbury-on-Thames 3101, 3107. PERSONNEL—Managing Director: C. G. Mayer. Directors: C. J. Bridge, C. M. Odorizzi, Sir Louis Sterling, P. A. Turnor, A. F. Watters. Products Sold: Theatre and Sound Equipment.

HACKBRIDGE & HEWITTIC ELECTRIC COMPANY, LTD., Hersham, Walton-on-Thames, Surrey. Telephone: Walton-on-Thames 760. Products Sold: Mercury Arc Rectifiers, Transformers, Mercury Vapor Lamps, etc.

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CHARILAOS PETROPOULOS, 51 El. Venizelou Str., Athens. Products Sold: RCA Theatre and Sound Equipment.

HELEN D. CARRA, 12, 28th October Street, Athens. Products Sold: Gaumont-Kalee line.

PHILIPS S.A. HELLENIQUE COMMERCIALE DE PRODUITS ELECTROTECHNIQUES, P. O. Box 153, Athens. Products Sold: Philips Projection and Sound Equipment.

SPYROS D. SKOURAS, 5 Santarosa St., Athens. Telephone: 21-824. Products Sold: National Theatre Supply Company line. AREA SERVED—Greece.

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J. G. LITTLE COMPANY, P. O. Box 40, Agana. Products Sold: Philips Projection and Sound Equipment.

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INSTRUMENTOS MUSICALES S.A., Apartado Postal 345, Guatemala City. Products Sold: RCA Cinema Equipment, 16mm.

PHILIPS DE GUATEMALA S.A., P. O. Box 238, Guatemala City. Products Sold: Philips Projection and Sound Equipment.

ADOLFO RIOS, 6A Avenida 15-36, Guatemala City. Products Sold: RCA Theatre and Sound Equipment.

RAMIRO SAMAYOA M., Avenida Elena 14-75, Cine Popular, Guatemala City. Products Sold: National Theatre Supply Company line. AREA SERVED—Guatemala.

E. F. TOPPE, Callejon Castillo No. 7, Guatemala City. Products Sold: Westrex Corporation line. AREA SERVED—Guatemala, El Salvador, Honduras, and British Honduras.

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CONSOLIDATED AMUSEMENT COMPANY, LTD., 1120 Bethel St., Honolulu 11. Telephone: 63571, Merchandise Department. PERSONNEL— T. A. McKee. AREA SERVED—Hawaiian Islands.

*THEATRE EQUIPMENT COMPANY, 2826 S. King St., Honolulu 72. Telephone: 94287. PERSONNEL— Owner-Manager: Ray Jackson.

HONDURAS

ESTEVEZ Y LAZARUS CLAMER, Apartado Postal 110, Tegucigalpa. Products Sold: RCA Theatre and Sound Equipment.

OSMOND MADURO, Apartado 213, Tegucigalpa. Products Sold: National Theatre Supply Company line.

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ELEPHANT RADIO AND ENGINEERING, 209 Bank of East Asia Bldg., Victoria. Products Sold: Custom made equipment, RCA Theatre and Sound Equipment, National Theatre Supply Company line.

*MAITLAND AND COMPANY, G.P.O. Box 2287, 615-16 Marina House, Queen's Road, Central, Victoria. PERSONNEL—Robert Maitland. Products Sold: Theatre and Sound Equipment. AREA SERVED—Hong Kong.

PHILIPS HONG KONG, LTD., P. O. Box 2108, Victoria. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, ASIA, 401 Victory House, Wyndham St., Victoria. PERSONNEL—Manager: Y. H. Moore. Products Sold: Westrex Corporation line. AREA SERVED—Hong Kong, Macao, Formosa.

*MANNERS ENGINEERING, LTD., Alexandra House, Victoria.

ICELAND

SNORRI P. B. ARNAR, P. O. Box 354, Reykjavik. Products Sold: RCA Theatre and Sound Equipment and Philips Projection and Sound Equipment.

INDIA

*CHICAGO TELEPHONE AND RADIO COMPANY PRIVATE, LTD., 94, Sri Narasimharaja Road, Bangalore 2. Telephone: 3833. PERSONNEL— Branch Manager: K. R. Rangaswamy, B.E.; C. K. Vasudeva Rao, B.Sc., D.M.I.T.; P. G. Narayanan, B.E. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

*CINE SUPPLIES (PRIVATE), LTD., 306 Subedarchatram Road, Bangalore 9.

*RAHBHAI PATEL AND SONS, Majestic Circle, Bangalore 9. Products Sold: Theatre Equipment and Accessories. AREA SERVED—Andhra Pradesh.

*THE CINE AGENCY (INDIA), 16 New Queen's Road Bombay 4. Products Sold: Zeiss Ikon, Stuttgart 35 and 16mm. Cinema and Sound Projectors and Accessories.

CINEFONES, 3, New Queen's Road, Bombay 4. PERSONNEL—Managing Partner: S. B. Agarwal. Products Sold: Theatre equipment and Accessories. AREA SERVED—Bombay Presidency.

CINERAMA PRIVATE, LTD., 432 Sandhurst Bridge, Bombay 7. Telephone: 75411. PERSONNEL— Director: Shreeprakash Agarwal. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Bombay State, Hyderabad, Madhya Bharat, Madhya Pradesh, Rajasthan, Vindhya Pradesh, Bhopal.

*EASTERN ELECTRIC AND ENGINEERING COMPANY, 127 Mahatma Gandhi Road, Post Box 459, Bombay 1. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

EVERGREEN PICTURES, 15 New Queen's Road, Bombay 4. Telephone: 27553. PERSONNEL—Partners: N. C. Kapadia, M. C. Kapadia, Mrs. P. C. Kapadia, H. C. Naterwalla, S. N. Kotwal, E. C. Naterwalla, M. N. Kapadia, M. R. Kapadia, J. R. Kapadia. AREA SERVED— All of India.

GAUMONT-KALEE PRIVATE, LTD., Forbes Building, Home St., Bombay. PERSONNEL— Director: L. S. H. Rock. Sales Manager: S. K. Sethna. Secretary: K. R. Warerkar. Products Sold: Rank Precision Industries, Ltd. AREA SERVED—All of India.

PHILIPS INDIA, LTD., Fort House, 221 Dadabhoy Navroji Road, (P. O. Box 309), Bombay 1. Products Sold: Philips Projection and Sound Equipment.

PHOTOPHONE EQUIPMENTS, LTD., 9 Marine Lines, Bombay 1. PERSONNEL—Managing Director: M. A. Fazalbhoy. Products Sold: RCA Theatre and Sound Equipment, National Theatre Supply Company Line, National Carbons. AREA SERVED—India, Pakistan, Burma, Ceylon, Afghanistan.

WESTREX COMPANY, INDIA, Head Office of Area: Metro House Esplanade Road. Bombay 1. PERSONNEL—Manager: P. J. Buck. Products Sold: Westrex Corporation line. AREA SERVED—India, Burma, Ceylon.

*CHICAGO TELEPHONE AND RADIO COMPANY PRIVATE, LTD., 25 Chowringhee. Calcutta 13. PERSONNEL—Engineers: S. D. Nag, B.Sc.; S. Bose, S. Das, B. Paul Products Sold: B.T.H. and Simon.

*EVERGREEN PICTURES CORPORATION, 11 Esplanada East, Calcutta. Telephone: 6179. PERSONNEL— Partners: N. C. Kapadia, M. C. Kapadia, Mrs. P. C. Kapadia, H. C. Naterwalla, S. N. Kotwal, E. C. Naterwalla, N. M. Kapadia, M. R. Kapadia, J. R. Kapadia. AREA SERVED—West Bengal, Bihar, Orissa, Assam.

GENERAL RADIO AND APPLIANCES PRIVATE, LTD., 3 Madan St., Calcutta 13. Telephone: 23-6038. PERSONNEL—Managing Director: Y. A. Fazalbhoy. Branch Manager: D. V. J. Raju. Products Sold: National Theatre Supply Company line Strong Lamps and Rectifiers, International Seats. AREA SERVED— Provinces of West Bengal, Bihar, Orissa, Assam and Kingdom of Nepal.

PHILIPS ELECTRICAL COMPANY, (INDIA) PRIVATE, LTD., 7 Justice Chandra Madhab Road. Calcutta 20. Products Sold: Philips Projection and Sound Equipment.

*Listing Not Confirmed by Supply Dealer.

WESTREX COMPANY, INDIA, Lighthouse Cinema Bldg., Humayan Place, Calcutta 13. Products Sold: Westrex Corporation line.

CINEFONES (DELHI) PRIVATE, LTD., Behind State Bank of India, Chandni Chowk, Delhi. PERSONNEL—Managing Director: S. N. Agarwal. AREA SERVED—Delhi, U. P., Punjab.

*EVERGREEN PICTURES, Chandni Chouk, Delhi. Telephone: 6456. PERSONNEL—Partners N. C. Kapadia, M. C. Kapadia, Mrs. P. C. Kapadia, H. C. Naterwalla, S. N. Kotwal, E. C. Naterwalla, M. N. Kapadia, M. R. Kapadia, J. R. Kapadia. AREA SERVED— Delhi, U. P., Punjab, Pepsu, Himachal Pradesh, Kashmir, Jammu.

WESTREX COMPANY, INDIA, Brampton Road, Kashmiri Gate, Delhi. Products Sold: Westrex Corporation line. AREA SERVED— India, Ceylon.

CINEFONES (DELHI) LTD., Old Railway Road, Jullundur City. PERSONNEL— Managing Director: S. N. Agarwal. AREA SERVED—Punjab.

*CHICAGO TELEPHONE AND RADIO COMPANY, PRIVATE, LTD., 48 Hazratganj, Lucknow, U. P. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

*CHICAGO TELEPHONE AND RADIO COMPANY, PRIVATE, LTD., 196 Mount Road, Madras 2. Products Sold: B. T. H. 35mm. and 16mm. Equipment. STATES SERVED—Madras, Andhra, Travancore-Cochin.

*THE CINE AGENCY (INDIA), Airways House, 9 Mount Road, Madras 2. Telephone: 85333. PERSONNEL—Manager Madras Branch: M. Venkataraman. Asst. Manager: V. K. Janakiraman. Chief Engineer: M. V. Ramachandran. Products Sold: Zeiss Ikon, Stuttgart 35mm equipment and accessories. AREA SERVED— Madras Presidency.

*EVERGREEN (BANGALORE) PRIVATE LTD., 15 Wescott Road, Royapettah, Madras 14. PERSONNEL— Directors: N. C. Kapadia, M. C. Kapadia, H. C. Naterwalla, S. N. Kotwal, E. C. Naterwalla, AREA SERVED—Madras, Tamilnad, Travancore-Cochin, Mysore.

GENERAL RADIO AND APPLIANCES PRIVATE LTD., Bharath Building, 1/18 Mount Road, Madras. Products Sold: National Theatre Supply Company line, Strong Lamps and Rectifiers, International Seats. AREA SERVED—Madras, Andhra, Mysore, Travancore-Cochin.

PHILIPS ELECTRICAL COMPANY (INDIA) PRIVATE LTD., 35/4, Mount Road, Madras 2. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, INDIA, Khaleeli Mansion, 35 Mount Road, Madras 2. Products Sold: Westrex Corporation line. AREA SERVED—India, Ceylon.

*CHICAGO TELEPHONE AND RADIO COMPANY PRIVATE, LTD., 68 Queensway, New Delhi. Products Sold: B. T. H. 35mm. and 16mm. Equipment.

PHILIPS ELECTRICAL COMPANY (INDIA) PRIVATE LTD., Delhi-Ajemere Gate Extension, New Delhi. Products Sold: Philips Projection and Sound Equipment.

PHOTOPHONE EQUIPMENTS LTD., Delite Cinema Bldg., New Delhi. PERSONNEL—Manager: N. Kumar Jain. Products Sold: RCA Theatre and Sound Equipment and National Theatre Supply Company line.

CINE SUPPLIES PRIVATE, LTD., 7 Rashtrapathi Road, Secunderbad 3. PERSONNEL—Managing Director: B. R. Patel. Products Sold: RCA Theatre Equipment and Accessories. AREA SERVED—Part of Andhra Pradesh.

*EVERGREEN (BANGALORE) PRIVATE, LTD., 1/D Rashtrapathi Road Secunderbad. Telephone: 6707. PERSONNEL—Directors: N. C. Kapadia, M. C. Kapadia H. C. Naterwalla, S. N. Kotwal, E. C. Naterwalla. AREA SERVED—Hyderabad and Andhra States.

*RAMBHAI PATEL AND SONS, 7 Rashtrapathi Road, Secunderland 3. PERSONNEL—Managing Director: B. R. Patel. Products Sold: Theatre Equipment and Accessories. STATE SERVED—Andhra Pradesh.

*RAMBHAI PATEL AND SONS, Gandhinagar, Vijayawada 2. Products Sold: Theatre Equipment and Accessories. STATE SERVED—Andhra Pradesh.

INDONESIA

WESTREX COMPANY, ASIA, Djalan Banda #2, Bandung. Products Sold: Westrex Corporation line.

N.V.P.D. SOEDARPO CORPORATION, 22 Djalan Segaral, Djakarta. Products Sold: RCA Theatre and Sound Equipment.

PHILIPS INDONESIA, Teromol Pos 220, Djakarta. Products Sold: Philips Sound and Projection Equipment.

WESTREX COMPANY, ASIA, Pegangsaan Timur 19A, Djakarta 111/21. PERSONNEL—Manager: D. Van Spankeren. Products Sold: Westrex Corporation line. AREA SERVED—Indonesia.

WESTREX CO., ASIA, Rubatan #7, Surabaia. Products Sold: Westrex Corporation line.

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AKRAM MICHAEL, P. O. Box No. 323, Teheran. Products Sold: Westrex Corporation line. AREA SERVED—Iran.

FIROOZ TRADING COMPANY, P. O. 1015, Teheran. Products Sold: Philips 16mm. Sound Film and Projection Equipment.

PHILIPS IRAN, LTD., P. O. Box 1297, Teheran. Products Sold: Philips Sound and Projection Equipment.

RADIO JAHAN, Kattarian Building, Avenue Shah, Teheran. Products Sold: Gaumont-Kalee line.

RADIO SHAHAB COMPANY, Av. Naderi 720, Teheran. Products Sold: Philips 35mm. Sound Film and Projection Equipment.

IRAQ

AFRICAN AND EASTERN TRADING COMPANY (NEAR EAST) LTD., Rashid Street 17, Baghdad. Products Sold: Philips Projection and Sound Equipment.

HAFIDH AL-KADI, Kingteisel 11 Square, Baghdad. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Iraq, Kuwait.

THE IRAQI COMPANY FOR FILMS & CINEMA, P. O. Box 206, Baghdad. Products Sold: National Theatre Supply Company line. AREA SERVED— Iraq.

ISMAIL SHARIF BROTHERS COMPANY, LTD., Al-Ameen St., Baghdad. Products Sold: Gaumont-Kalee line.

IRELAND

C. NAPIER, 112 Marlborough St. Dublin. Products Sold: Philips Projection and Sound Equipment. AREA SERVED—Republic of Ireland and Northern Ireland.

RCA GREAT BRITAIN, LTD., 34 Lower Abbey St., Dublin. Telephone: 43842. PERSONNEL—Area Supervisor: H. W. Neill. Products Sold: Theatre and Sound Equipment.

THE STRAND ELECTRIC AND ENGINEERING COMPANY, LTD., 30 Upper Abbey St., Dublin. Telephone: 47078. PERSONNEL—Irish Branch Manager: Kevin Bourke. COUNTRY SERVED—Ireland.

WESTREX COMPANY, LTD., Veritas House, 7-8 Lower Abbey St., Dublin. PERSONNEL— Manager: W. H. G. Ryan. Products Sold: Westrex Corporation Line. AREA SERVED—Ireland.

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ISRAELECTRA, LTD., P. O. Box 1608, Haifa. Products Sold: Philips Projection and Sound Equipment.

AMPA, LTD., 16 Petah Tikvah Rd., P. O. Box 636, Tel-Aviv. Telephone: 3228. PERSONNEL—Theatre Department Manager: M. Kolari. Products Sold: National Theatre Supply Company line. AREA SERVED—Israel.

CARASSO BROTHERS, P. O. Box 364, Tel-Aviv. Products Sold: RCA Theatre and Sound Equipment.

CHEMICALS AND TECHNICAL SUPPLIES (GREEN) LTD., Cine Dept., 6 Beth Hashoeva Lane, Tel-Aviv. Telephone: 4492. Products Sold: Rank Precision Industries Ltd., Bell & Howell, Radiant Mfg. Corp., Charles H. Champion & Co. Ltd.

LANDSEAS EASTERN COMPANY, LTD., P. O. Box 2554, Tel-Aviv. Products Sold: RCA Cinema Equipment, 16mm. and 35mm.

*LEVANT X-RAY, LTD., 39 Walfson St., Tel-Aviv. Telephone: 81566. PERSONNEL—H. H. Aldor. Products Sold: Motiograph. COUNTRY SERVED—Israel.

MOSHE BASSIN ELECTRONIC ENGINERING, 6 Feierberg St., Tel-Aviv. Products Sold: Westrex Corporation line. AREA SERVED—Israel.

ITALY

PHILIPS RADIO S. P. A., Piazza IV Novembre 3, Milan. Products Sold: Philips Projection and Sound Equipment.

RCA ITALIANA, S.P.A., Via Giulio Caccini No. 1, Rome. Products Sold: RCA Theatre and Sound Equipment.

MOLE RICHARDSON (ITALIA) S.R.L., Via del Velodromo 68-74, Rome. Products Sold: Gaumont-Kalee Studio Equipment.

WESTREX COMPANY, ITALY, Piazza Margana 19, Rome. PERSONNEL—Manager: F. DeRenzis. Products Sold: Westrex Corporation line. AREA SERVED—Italy.

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*CONSOLIDATED THEATRE AND TELEVISION SUPPLY CORPORATION, c/I National Bldg., Hakata-ekimae, Fukuoka.

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*NIHON EIGA SHIZAI COMPANY, LTD., 5-833 Nishiboridohri, Niigata City, Niigata.

*NIHON EIGA SHIZAI COMPANY, LTD., 2-3119, Honcho, Niitsu C.

*NIHON EIGA SHIZAI COMPANY, LTD., 1-21, Kitahama, Higashiku, Osaka C.

NIPPON ONKYOSEKI COMPANY, LTD., 146, Oaza-Ushidate, Toyonaka-shi, Osaka-fu. Products Sold: National Theatre Supply Company line.

*NIHON EIGA SHIZAI COMPANY, LTD., 3-19, Hanazonocho, Otaru C.

*CONSOLIDATED THEATRE AND TELEVISION SUPPLY CORPORATION, #18, Nishi-2 chome, Minami-1 jo Sapporo.

*NIHON EIGA SHIZAI COMPANY, LTD., 72 Higashi 4-chome, Sendai C.

NIHON DENSHI KOGYO K. K. , Room 212, Sanshin Building, Yurakucho, Chiyodaku, Tokyo. Products Sold: National Theatre Supply Company line.

NIHON DENSHI TELEVI K. K., Room 212, Sanshin Building, Yurakucho, Chiyodaku, Tokyo. Products Sold: RCA Theatre and Sound Equipment.

*NIHON EIGA SHIZAI COMPANY, LTD., Head Office: 8-10 W. Ginza, Chuo-ku, Tokyo. Telephones: 20-0891, 20-4721. PERSONNEL—Manager: Jitsutarow Kishino. Products Sold: Matsuda Theatre and Sound Equipment.

J. OSWA & COMPANY, 5 Ginza Nishi 2-chome, Chuoko, Tokyo. Products Sold: Gaumont-Kalee line.

WESTREX COMPANY, ORIENT, Mitsubishi Higashi 7th Building, No. 2, 3-Chome, Marunochi Chiyoda-ku, Tokyo. PERSONNEL—Manager: Edgar Snow. Products Sold: Westrex Corporation line. AREA SERVED—Japan.

JORDAN

MOHAMMAD O. SUWYEH AND BROTHERS, P. O. Box 502, Amman. Products Sold: RCA Cinema Equipment, 16mm. and 35mm.

TRANSJORDAN ENGINEERING COMPANY, LTD., P.O. Box 1, Amman. Products Sold: Philips Projection and Sound Equipment.

DAVID A. ARAFAT, P. O. Box 4, Nablus. Products Sold: Gaumont-Kalee line.

KOREA

CENTURY COMPANY, LTD., P. O. Box 220, Central Post Office, Seoul. Products Sold: National Theatre Supply Company line.

FRINAT INTERNATIONAL, LTD., 632 Bando Building, Seoul. Products Sold: Westrex Corporation line. AREA SERVED—Korea.

KORCAD CORPORATION, P. O. Box 5, Kwang Wha Moon, Seoul. Products Sold: RCA Cinema Equipment, 16mm. and 35mm.

LEBANON

PHILIPS LIBAN S.A., P.O. Box 670, Beirut. Products Sold: Philips Projection and Sound Equipment.

WILLIAM MALLUK, P. O. Box 481, Beirut. Products Sold: National Theatre Supply Company line.

MIDDLE EAST DISTRIBUTION COMPANY, S.A.L., Managing Director, P. O. Box 2407, Beirut. Products Sold: RCA Cinema Equipment, 16mm. and 35mm.

WESTREX COMPANY, EAST, Rue de Damas, Imm. "Watter," Beirut. Products Sold: Westrex Corporation line. AREA SERVED—Lebanon.

N. ZABBAT, Post Box 741, Beirut. Products Sold: Gaumont-Kalee line.

LIBERIA

A. MANSOUR AND SONS, P. O. Box 207, Monrovia. PERSONNEL—Manager: F. A. Mansour. Products Sold: RCA Cinema Equipment, 16mm. and 35mm.

*OOST AFRIKAANSCHE COMPAGNIE, P. O. Box 281, Monrovia.

MALAYA, FEDERATION OF

(See SINGAPORE)

MALTA

P. CUTAJAR & COMPANY, LTD., 12 St. Paul's Street, Valletta. Products Sold: Gaumont-Kalee line.

GENERAL SALES COMPANY, 48 Kingsway, Valletta. PERSONNEL—Managing Director: Michael Grech. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED— Malta, Gozo.

CHARLES A. MICALIEF AND COMPANY, LTD., 282 Kingsway, Valletta. Products Sold: Philips Projection and Sound Equipment.

MAURITIUS

ADAM AND COMPANY, LTD., P. O. Box 53, Port Louis. Products Sold: Philips Projection and Sound Equipment.

BLANCHE, BIRGER COMPANY, LTD., 12 Intendence St., Port Louis. Products Sold: RCA Theatre and Sound Equipment.

THE MAURITIUS ANGLO CHINESE COMPANY, P.O. Box 181, Port Louis. Products Sold: Gaumont-Kalee line.

MEXICO

DEKSA, S.A., Puebla #301, Mexico 7, D.F. Products Sold: Gaumont-Kalee line, Theatre, Studio and Laboratory equipment and accessories.

EQUIPOS PARA CINES, S.A., Av. Insurgentes Sur 600, Mexico 12, D.F. PERSONNEL—President: Manuel Ampudia. Manager: Jose Desquens. Products Sold: National Theatre Supply Company line.

PHILIPS S.E.T., Apartado Postal 21420, Mexico 7, D.F. Products Sold: Philips Projection and Sound Equipment.

RCA VICTOR MEXICANA, S.A. de C.V., Avenida Cuitlahuac 2519, Mexico 17, D.F. PERSONNEL—President: Joseph P. Toole. General Manager: Paul W. Hessinger. General Sales Manager: W. S. ROLSTON. Products Sold: Theatre and Sound Equipment. AREA SERVED—Mexico.

WESTREX COMPANY, MEXICO, Avenida Morelos 64, Mexico, D.F. PERSONNEL—Manager: P. W. Kayser. Products Sold: Westrex Corporation line. AREA SERVED—Mexico.

MOROCCO

F. POULIQUEN, 208 Boulevard de la Gare, Casablanca. Products Sold: National Theatre Supply Company line.

SOCIETE MAROCAINE PHILIPS, 304 Blvd. Mohammed V, Casablanca. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, FRANCE-BELGIUM, 124 Rue Du Jura, Casablanca. Products Sold: Westrex Corporation line. AREA SERVED—Morocco.

CASA ROS, Avenida, 7 Tetuan. Products Sold: Philips Projection and Sound Equipment.

NETHERLANDS

BICKER AND VAN der ROER, Sarphatikade 4 Amsterdam. Products Sold: National Theatre Supply Company line. Lorraine Carbons.

WESTREX NEDERLAND N.V., Singel 127, Amsterdam. Products Sold: Westrex Corporation line. AREA SERVED—Netherlands.

PHILIPS NEDERLAND N.V., Eindhoven. Products Sold: Philips Projection and Sound Equipment.

*N. V. KINO APPARATEN EN INSTRUMENTEN FABRIEK, LOUIS B. KAGENAAR, Jekerstraat 82, Utrecht. Telephones: 34775, 28307. Products Sold: Micron Projectors, Elka Sound Equipment, Screens, Carbons, Curtain Machines, Rectifiers, Theatre Chairs.

NEW ZEALAND

P. C. BLENKARNE, LTD., 6 Upper Queen St., Auckland. PERSONNEL—Managing Director: P. C. Blenkarne. General Manager: P. J. Blenkarne. Branches: Auckland, Hamilton, Palmerston North, Wellington, Christchurch. Products Sold: National Theatre Supply Company line. AREA SERVED—New Zealand and South Pacific.

CHARLES CARRAD, LTD., Civic Theatre Building, Bledisloe St., Auckland. Products Sold: Philips 35mm. and 16mm. Sound Film and Projection Equipment. (Sole Agency).

GAUMONT-KALEE (N. Z.) LTD., St. James Building, Queen St., P.O. Box 2191, Auckland, C. I. Products Sold: Gaumont-Kalee, "Ship" Carbons, Theatre Supplies.

WESTREX COMPANY, NEW ZEALAND, LTD., 174 Queen ST., Auckland. Products Sold: Westrex Corporation line.

P. C. BLENKARNE, LTD., 243, St. Asaph St., P. O. Box 1175, Christchurch. Products Sold: National Theatre Supply Company line.

WESTREX COMPANY, NEW ZEALAND, LTD., 3 Ferry Road, Christchurch. Products Sold: Westrex Corporation line.

WESTREX COMPANY, NEW ZEALAND, LTD., c/o St. James Theatre, Moray Place, Dunedin. Products Sold: Westrex Corporation line.

PHILIPS ELECTRICAL INDUSTRIES OF NEW ZEALAND, LTD., P. O. Box 2097, Wellington. Products Sold: Philips Projection and Sound Equipment.

*SCAMMELL AND EGLINTON, Motion Picture Engineers, Martins Buildings, 45 Courtenay Place, Wellington C.3. Products Sold: Theatre Equipment and Supplies.

WESTREX COMPANY, NEW ZEALAND, LTD., Head Office of Area: Dental and Medical Supply Bldg., 128 Wakefield St., Wellington. PERSONNEL—Manager: B. S. Rundle. Products Sold: Westrex Corporation line. AREA SERVED—New Zealand.

NICARAGUA

*AUTOMOTIVE AND INDUSTRIAL EQUIPMENT COMPANY, Apartado 323, Managua.

EQUIPOS Y ACCESORIOS, Apartado 242, Managua. Products Sold: National Theatre Supply Company line, "National" Carbons. AREA SERVED—Nicaragua.

SUCESORES DE RAFAEL CABRERA, Apartado 1267, Managua. Products Sold: RCA Theatre and Sound Equipment, RCA 16mm. Equipment.

NIGERIA

COMPANIE FRANCAISE DE L'AFRIQUE OCCIDENTALE, 7 Place d'Iena, Paris 16. PERSONNEL—Nigerian Manager: Leon Morelon. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

PHILIPS (WEST AFRICA) LTD., P. O. Box 2023, G. P. O., Lagos. Products Sold: Philips Projection and Sound Equipment.

NORTHERN IRELAND

(See GREAT BRITAIN)

NORWAY

*AKSJESELSKAPET PROTON, Rosenkrantzgt. 11, Oslo. Products Sold: Siemens and Halske, Klangfilm Sound Equipment.

HANS H. KNUTSEN AND COMPANY Kangens Gt. 15, Oslo. Products Sold: Gaumont-Kalee, Bell and Howell,

*Listing Not Confirmed by Supply Dealer.

Eugen Bauer, Lorraine Carbons.

J. L. NERLIEN A/S, Tollbugt. 35, Oslo. Products Sold: National Theatre Supply Company line and Zeiss Ikon Equipment.

NORSK A/S PHILIPS, P. O. Box 5040 Oslo. Products Sold: Philips Projection and Sound Equipment.

A/S PROTON, Rosengrautzgaten 11, Oslo. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

PAKISTAN

ELECTRONICS AND FILM EQUIPMENTS, LTD., Gulistan Cinema Building, Ramna, Dacca. PERSONNEL—Manager: Karim Kassamally. Products Sold: National Theatre Supply Company line.

WESTREX COMPANY, EAST, Gulistan Cinema Building, Ramna, Dacca. Products Sold: Westrex Corporation line. AREA SERVED—East Pakistan.

ELECTRONICS AND FILM EQUIPMENTS, LTD., Gulshan-E-Nusrat Building, Victoria Road, Saddar, Karachi 3. PERSONNEL—Managing Director: A. T. Nomanbhoy. Products Sold: National Theatre Supply Company line.

FILM FACTORS, LTD., Rex Annexe, 27 Victoria Road, Karachi 2. Products Sold: Gaumont-Kalee line.

PHILIPS ELECTRICAL COMPANY OF PAKISTAN, LTD., P. O. Box 7101, Karachi. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, EAST, Karachi House, McLeod Road, Karachi. Products Sold: Westrex Corporation line. AREA SERVED—West Pakistan.

ELECTRONICS AND FILM EQUIPMENTS, LTD., Luxmi Mansion, The Mall, Lahore. PERSONNEL—Manager: Anwar Hussain. Products Sold: National Theatre Supply Company line.

WESTREX COMPANY, EAST, Head Office of Area: Attar Singh Building, The Mall, Lahore. PERSONNEL—Manager: D. E. Merfield. Products Sold: Westrex Corporation line. AREA SERVED—Pakistan.

PANAMA

PANAMA RADIO CORPORATION, P. O. Box 406, Panama City. PERSONNEL—President: A. Bletterman. Products Sold: National Theatre Supply Company line and RCA Theatre and Sound Equipment. AREA SERVED—Republic of Panama, Canal Zone.

RODRIGUEZ Y COMPANIA, P. O. Box 242, Panama City. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, CARIBBEAN, Avienda 5a Cuba, #32-14, Panama City. PERSONNEL—Manager: B. A. Rivera. Products Sold: Westrex Corporation line. AREA SERVED—Panama and Canal Zone.

PARAGUAY

PHILIPS DEL PARAGUAY, S.A.,Casilla de Correo 605, Asunción. Products Sold: Philips Projection and Sound Equipment.

PERU

J. CALERO PAZ, S.A., Portal de Belen 902-914, Apartado 1281, Lima. Products Sold: National Theatre Supply Company line and RCA Theatre and Sound Equipment. AREA SERVED—Peru.

PHILIPS PERUANA, S.A. Apartado 1841, Lima. Products Sold: Philips Projection and Sound Equipment.

ERNESTO A. REID, S.A., Av. Wilson 1698, Lima. Products Sold: Gaumont-Kalee line.

WESTREX COMPANY, ANDEAN, Edificio Hidalgo No. 950-954, Plaza San Martin, Lima. PERSONNEL—Manager: M. Prado. Products Sold: Westrex Corporation line. AREA SERVED—Peru and Bolivia.

PHILIPPINES

WESTREX COMPANY, ASIA, Legaspi Street, Cebu City. Products Sold: Westrex Corporation line.

WESTREX COMPANY, ASIA, 227 Legaspi Street, Davao City. Products Sold: Westrex Corporation line.

WESTREX COMPANY, EAST, Jalandoni Int., Iloilo City, Products Sold: Westrex Corporation line.

S. M. BERGER AND COMPANY, LTD., 523 Busfos, Corner Rigal Ave., Manila. PERSONNEL—Manager: Bela Bass. Products Sold: National Theatre Supply Company line.

PHILIPPINE ENGINEERING CORPORATION, 936 Raon St., Quiapo, Manila. Products Sold: RCA Theatre and Sound Equipment.

PHILIPS INDUSTRIAL DEVELOPMENT, INC., 544 San Luis St., P. O. Box 2205, Ermita, Manila. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, ASIA, Head Office of Area: 666 Florentino Torres, Manila. PERSONNEL—Manager: H. v. Zeppelin. Products Sold: Westrex Corporation line. AREA SERVED—Philippines.

PORTUGAL

CENTRO DE COOPERACAO TECHNICA, Rua Dom Joao V, No. 2, Lisbon. Products Sold: Gaumont-Kalee line.

INSTITUTO PASTEUR de LISBOA, R. Nova do Almada 69, Lisbon. Products Sold: RCA Theatre and Sound Equipment.

PHILIPS PORTUGUESA, S.A.R.L., Rua Joaquim Antonio de Aguiar 66, Lisbon. Products Sold: Philips Projection and Sound Equipment.

TELECTRA EMPRESA TECNICA DE EQUIPAMENTOS ELECTRICOS, S.A.R.L., R. Rodigo da Fonseca, 103 r/c, Lisbon. Products Sold: RCA Cinema Equipment, 35mm and 16mm

WESTREX COMPANY, ALBINE, Rua Crucifixo, 76 Lisbon. Products Sold: Westrex Corporation line. AREA SERVED—Portugal.

PORTUGUESE EAST AFRICA

ZUID-AFRIKAANSCH, HANDELSHUIS, N. V., P. O. Box 385 Beira; P. O. Box 471, Lourenco Marques; P. O. Box 111 and 124, Mocambique; Nacala; P. O. Box 124, Nampula; P. O. Box 300, Quelimane. Products Sold: Philips Projection and Sound Equipment.

PORTUGUESE WEST AFRICA

SOCIEDADE COMMERCIAL LUSO-HOLANDESA LDA., "LUSOLANDA" Caixa Postal 26, Benquela. Products Sold: Philips Projection and Sound Equipment.

SOCIEDADE COMERCIAL LUSO-HOLANDESA LDA., "LUSOLANDA," Lobito. Products Sold: Philips Projection and Sound Equipment.

SOCIEDADE COMERCIAL LUSO-HOLANDESA LDA., "LUSOLANDA," Caixa Postal 178, Luanda. Products Sold: Philips Projection and Sound Equipment.

EL SALVADOR

MANUEL VIEYTEZ, 1A Calle Poniente No. 430, San Salvador. Products Sold: National Theatre Supply Company line.

PHILIPS DE EL SALVADOR S.A., P.O. Box 865, San Salvador. Products Sold: Philips Projection and Sound Equipment. COUNTRY SERVED—El Salvador.

RADIO ELECTRICA, S. A., La Calle Poniente No. 2 San Salvador. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

*SUCESION CARLOS AVILA, Calle Delgado Y 6A, San Salvador.

SAUDI ARABIA

MOHAMED ALY MAGHRABI, P. O. Box No. 61. Jeddah. Products Sold: Westrex Corporation line. AREA SERVED—Saudi Arabia.

MOHAMED MAHMOOD ZAHID AND BROTHERS, Jeddah. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Saudi Arabia, Yemen.

SCOTLAND

(See GREAT BRITAIN)

SINGAPORE

EDWARD EU AND COMPANY, LTD., 1 Orchard Road, Singapore 9. Products Sold: RCA Cinema Equipment, 35mm and 16mm.

H. A. O'CONNOR & CO., LTD., Laidlaw Building, Battery Road, P. O. Box No. 252, Singapore. PERSONNEL—Managing Director: F. Hickley, Executive Director: P. H. B. Dowson, General Sales Manager: P. J. Richmond. Products Sold: Gaumont-Kalee, "Ship" Carbons, Bell and Howell.

PHILIPS ELECTRICAL COMPANY OF MALAYA LTD., 10 Battery Road, Singapore. Products Sold: Philips Projection and Sound Equipment.

SHAW BROTHERS, LTD., 112/120 Robinson Rd., Singapore. Products Sold: National Theatre Supply Company line. AREA SERVED—Malaya.

WESTREX COMPANY, ASIA, 138 Robinson Road, Singapore. Products Sold: Westrex Corporation line.

SOCIETY ISLANDS

ESTABLISSEMENTS DONALD TAHITI, Papeete, Tahiti. Products Sold: RCA Theatre and Sound Equipment.

SOUTH AFRICA, UNION OF

PAN AFRICAN FILM SERVICES (PTY.) LTD., P. O. Box 3243 Capetown. Products Sold: RCA Cinema Equipment, 16mm.

AFRICAN CONSOLIDATED FILMS, LTD., Head Office: Broadcast House, 170 Commissioner St., Box 4552, Johannesburg. Branches: Cape Town—26 Commercial St., Box 701, Port Elizabeth—Beland Theatre, Main St. Box 347, Durban——241 Smith St. Box 2352, Bulawayo—Palace Theatre, 11th Ave., Box 537 Nairobi—Corner Govt. Road and Queensway, Box 2682. PERSONNEL—N. Bennett, R. H. Jameson. Products Sold: National Theatre Supply line, RCA Theatre and Sound Equipment, G. B.-Kalee. AREA SERVED—Africa, South of Equator.

H. POLLACK AND COMPANY, LTD., 124 President St., Johannesburg. Products Sold: RCA Cinema Equipment, 35mm.

SOUTH AFRICAN PHILIPS (PTY.) LTD., P. O. Box 7703, Johannesburg. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, EAST, 705 Safric House, 36 Plein Street, Johannesburg. PERSONNEL—Manager: D. Pollock. Products Sold: Westrex Corporation line. AREA SERVED—Union of South Africa, Northern and Southern Rhodesia, Belgian Congo, Portuguese East and West Africa, Tanganyika, Uganda, Kenya Colony, Zanzibar, Angola.

*Listing Not Confirmed by Supply Dealer.

SOUTHERN RHODESIA

PHILIPS RHODESIAN (PRIVATE), LTD., P. O. Box 8003, Belmont. Products Sold: Philips Projection and Sound Equipment.

PHILIPS RHODESIAN (PRIVATE), LTD., P. O. Box 994, Salisbury. Products Sold: Philips Projection and Sound Equipment.

SPAIN

WESTREX COMPANY, IBERICA. Head Office of Area: Avenida Jose Antonio 636, Barcelona. PERSONNEL—Manager: J. L. Monnerot-Dumaine. Products Sold: Westrex Corporation line. AREA SERVED—Spain.

*C. AND G. CARANDINI S. A., Avenida Jose Antonio 31, Madrid.

RCA ESPANOLA, S. A., Avenida de America y Hernandez de Tejeda (Frente Estudios CEA, Ciudad Lineal), Madrid. Products Sold: RCA Theatre and Sound Equipment.

PHILIPS IBERICA, S.A.E. Paseo de las Delicias 65, Madrid. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, IBERICA, Avenida Jose Antonio 66, Madrid. Products Sold: Westrex Corporation line.

SUDAN

G. & A. E. LICOS, LTD., P. O. Box 183, Khartoum. Products Sold: Gaumont-Kalee Theatre Equipment.

GELLATLY, HANKEY AND CO. (ENGINEERING), LTD., P. O. Box 150, Khartoum. Products Sold: Philips Projection and Sound Equipment.

SURINAM

C. KERSTEN AND COMPANY, N.V., P. O. Box 216, Paramaribo. Products Sold: Philips Projection and Sound Equipment.

SWEDEN

A. B. FRITZ WEIST & COMPANY, Box 248, Stockholm 1. Products Sold: Gaumont-Kalee line.

SVENSKA A. B. PHILIPS, Gavlegatan 16, Stockholm 6. Products Sold: Philips Projection and Sound Equipment.

SVENSK TON-FILM. Karlsdergseagen 43B, Stockholm. Products Sold: RCA Cinema Equipment, 16mm.

*SVENSKA VIDEO AKTIEBOLAG, Norrlandsgatan 18, 3 tr., Stockholm.

UNITED ELECTRIC COMPANY, A.S., Sveavagen 25-27, Stockholm. Products Sold: Westrex Corporation line. AREA SERVED—Sweden, Norway, and Finland.

SWITZERLAND

*VICTOR FILM, LTD., Falknerstrasse 4, Basle.

WESTREX COMPANY, ALPINE, Viaduktstrasse 60, Baste. PERSONNEL—Manager: J. G. Van Erk. Products Sold: Westrex Corporation line. AREA SERVED—Switzerland.

*PRODUITS PERFECTONE S. A., 28 Alex. Schoeni, Bienne. Products Sold: Perfectone Projection and Sound Equipment. AREA SERVED—Europe, Middle-Orient, Africa.

OMNILUX S.A., 4 Rue du Midi, Lausanne. Products Sold: National Theatre Supply Company line.

JACQUES BAERLOCHER CORPORATION FOR ELECTRONIC PRODUCTS, Nüschelerstrasse 31, Zürich. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Switzerland.

PHILIPS A. G., Philips Haus, Edenstrasse 20, Zürich 3/45. Products Sold: Philips Projection and Sound Equipment.

UTILITAS A. G., Im Schilf 6, Zürich. Products Sold: Philips Sound and Projection Equipment.

SYRIA

(See UNITED ARAB REPUBLIC)

TAIWAN

(See CHINA-FORMOSA)

TANGIER

CASA ROS, Estatut 79, Tangier. Products Sold: Philips Projection and Sound Equipment.

A. S. COHEN, Calle Mejico 78-A, Tangier. Products Sold: Gaumont-Kalee line.

U. S. PRODUCTS, INC., 5 Rue de Viques, Tangier. Products Sold: RCA Cinema Equipment, 16mm and 35mm.

THAILAND (SIAM)

BARROW, BROWN AND COMPANY (1948), LTD., Barrow, Brown Bldg., Bangkok. PERSONNEL—Manager: G. H. Y. Grant. Products Sold: RCA Theatre and Sound Equipment.

*K. K. TSAN, Capitol Theatre, 311, New Road, P. O. Box 141, Bangkok.

THE LIGHT & SOUND (THAI) COMPANY, LTD., Phyasri Square, New Road, Bangkok. Products Sold: Theatre Supplies.

PHILIPS ELECTRICAL COMPANY OF THAILAND, LTD., 287 Silom Road, Bangkok. Products Sold: Philips Projection and Sound Equipment.

VICTORIOUS COMPANY, LTD., 620 Jakaphet Road, Bangkok. Products Sold: National Theatre Supply Company line.

TUNISIA

STE. LEO VOGELFEITH, Rue Garibaldi, Bizerte. PERSONNEL—Manager: A. Guérinel. Products Sold: National Theatre Supply Company line.

SOCIETE TUNISIENNE PHILLIPS, 32, Bis, Rue Lavigeria, Tunis. PERSONNEL—Manager: V. R. Bernard. Technical Assistant: L. Bouissou. Products Sold: Philips Projection and Sound Equipment.

WESTREX COMPANY, FRANCE-BELGIUM, 4 Rue de Vesoul, Tunis. Products Sold: Westrex Corporation line. AREA SERVED—Tunisia.

TURKEY

TEKNIKA, T.A.S., P. O. Box Galata 153, Istanbul. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Turkey.

TURK PHILIPS, T.A.S., Posta Kutusu 504, Beyoglu, Istanbul. Products Sold: Philips Projection and Sound Equipment.

UNITED ARAB REPUBLIC

*ISIDORE LEVY, Head Office: 22 bis Avenue Fouad Ier, Alexandria, (Egypt). Telephone: 20728. Products Sold: Film and Projection Equipment Accessories, Lorraine Carbons. AREA SERVED—Egypt, Sudan, Lybia, Eritrea.

WESTREX COMPANY, EAST, Head Office of Area: 22 (Bloc C) Av. Fouad Ier, Alexandria (Egypt). PERSONNEL—Manager: P. D. Amourgis. Products Sold: Westrex Corporation line. AREA SERVED—Egypt, Greece, Turkey, Cyprus, Iran, Iraq, Arabia, Ethiopia, Eritrea, Aden, Syria, Lebanon.

THE GABRI COMPANY, 51 Ibrahim Pasha St., Cairo (Egypt). Products Sold: RCA Cinema Equipment, 16mm and 35mm.

THE GENERAL COMPANY FOR PHARMACEUTICALS, P. O. Box 600, Cairo (Egypt). Products Sold: Gaumont-Kalee line.

PHILIPS ORIENT, S.A., 23, Sharia Youssef el-Guindi, Cairo (Egypt). Product Sold: Philips Projection and Sound Equipment.

*W. A. LANCASTER AND SON, Head Office: 11 Emad-el-Din St., Cairo. Sales: 50, Abdel-Khalek Saroit St., Cairo (Egypt).

WESTREX COMPANY, EAST, 5 Sharia, Kasr-El-Nil, Cairo (Egypt), Products Sold: Westrex Corporation line.

ETS. PHOTO-CINE AZAD, P. O. Box 630 Damascus, (Syria) Products Sold: Gaumont-Kalee line.

PHILIPS MOYEN-ORIENT, S. A., P. O. Box 2336 Damascus (Syria). Products Sold: Philips Projection and Sound Equipment.

URUGUAY

CINEMATOGRAFICA GLUCKSMANN, S.A., Rio Branco 1320-26, Montevideo. PERSONNEL—Owner and Manager: Bernardo Glucksmann. Products Sold: National Theatre Supply line. AREA SERVED——Uruguay.

CUFE, S.A., Colonia 1189, Montevideo. Products Sold: RCA Cinema Equipment, 16mm.

H. GARCIA AROCENA, San Jose 1202 Esq. Cuareim, Montevideo. Products Sold: Gaumont-Kalee line.

PHILIPS DEL URUGUAY, S.A., Casilla Correo 294, Montevideo. Products Sold: Philips Projection and Sound Equipment.

VENEZUELA

DUPLEX INDUSTRIAL, C. A., Apartado 1995, Caracas. Products Sold: Gaumont-Kalee line.

C. A. PHILIPS VENEZOLANA, Apartado 1167, Caracas. Products Sold: Philips Projection and Sound Equipment.

NATIONAL SUPPLY, S.A., Gorda a Aserradero 32/34, Caracas. PERSONNEL—Manager: Augusto M. Matilla. Products Sold: National Theatre Supply Company line.

STANDARD ELECTRIC, S.A., Apartado 2627, Caracas. Edif. Las Funciones: Av. Andrés Bello. PERSONNEL—Manager: José Castañeda. Products Sold: RCA Theatre and Sound Equipment. AREA SERVED—Venezuela.

WESTREX COMPANY, CARIBBEAN, Edificio Karam, Oficina 210, Ibarras a Pelota, Caracas. Products Sold: Westrex Corporation line. AREA SERVED—Venezuela.

WALES

(See GREAT BRITAIN)

WEST INDIES

Aruba

E. DE VEER'S CHAIN THEATRES, P. O. Box 3, Aruba. Products Sold: National Theatre Supply Company line.

Cuba

IMPORTADORA ASPA, Edificio Centro Filmico, Almendares y Desague, Havana. Products Sold: Gaumont-Kalee line.

NATIONAL SUPPLY, S.A., Almendares #166, Filmcenter, Habana. Telephones: U-5237—(Emergency Night) F-3798. PERSONNEL—P. Saenz. Products Sold: National Theatre Supply Company line. AREA SERVED—Cuba.

PHILIPS CUBANA, S. A., Calle Infanta 463, Habana, Products Sold: Philips Projection and Sound Equipment.

STANDARD ELECTRIC, S.A., Almendares 168, Filmcenter, Habana. PERSONNEL—President: Edward E. Chisholm. Products Sold: RCA Theatre and Sound Equipment.

*VINCENT VASQUEZ, Accesorios Cinematografios, Calle Almendares No. 205, Filmcenter, Habana.

WESTREX COMPANY, CARIBBEAN, Almendares 180 (Film Centro), Habana. Products Sold: Westrex Corporation line. AREA SERVED—Cuba.

Curacao, Netherlands Antilles

EL LOUVRE, S.A., P. O. Box 138, Curacao. Products Sold: RCA Theatre and Sound Equipment.

*Listing Not Confirmed by Supply Dealer.

N. V. BIOSCOOP MAATSCHAPPIJ CINELANDIA, P. O. Box 13, Curacao. PERSONNEL—Directors: Frank Brandao, Alfred Moron, Jr., Michael Herbert Pinedo. Products Sold: National Theatre Supply Company line. AREA SERVED—Curacao.

PHILIPS ANTILLANA N. V., P. O. Box 523, Willemstad. Products Sold: Philips Projection and Sound Equipment.

Haiti

SOCIETE HAITIENNE d'AUTOMOBILES, Mallenbranche, Gentil Bogat and Company, Port-au-Prince. Products Sold: RCA Theatre and Sound Equipment.

Jamaica

PALACE AMUSEMENT COMPANY (1921), LTD., P. O. Box 211, Kingston. PERSONNEL—Managing Director: J. Stuart Smeadon. Products Sold: Gaumont-Kalee, G. B., Bell and Howell.

RUEL SAMUELS, 34 Port Royal St., Kingston. Products Sold: Westrex Corporation line. AREA SERVED—Jamaica.

MESSRS. SPROSTENS, P. O. Box 139, Kingston. Products Sold: Philips Projection and Sound Equipment.

Puerto Rico

SAMBOLIN AND FIGUEROA, Santurce and Ponce. Products Sold: Philips Projection and Sound Equipment. AREA SERVED—Puerto Rico.

EDUARDO G. GONZALEZ, P. O. Box 3871, San Juan. PERSONNEL—Owner: Eduardo G. Gonzales. General Manager: Octavio A. Costas. Products Sold: National Theatre Supply Company line. AREA SERVED—Puerto Rico.

WESTREX COMPANY, CARIBBEAN, 524 Ponce de Leon Ave., San Juan. Products Sold: Westrex Corporation line. AREA SERVED—Puerto Rico.

Trinidad

*SPORTS AND GAMES, LTD., 28 Henry Street, Port of Spain. PERSONNEL—Managing Director: H. E. Ames. AREA SERVED—Trinidad, Tobago.

INVESTMENTS AND AGENCIES, LTD., 94-96 Henry St., Port of Spain. Products Sold: Philips Projection and Sound Equipment.

GLOBE THEATRES, LTD., Port of Spain. Products Sold: National Theatre Supply Company line.

A. J. MAURITZEN & COMPANY, P. O. Box 471, Port of Spain. Products Sold.: Gaumont-Kalee seating.

NATIONAL UNION RADIO SERVICE, 9 Cornelio St., Port of Spain. PERSONNEL—Owner and Manager: J. H. Fung. Products Sold: National Theatre Supply Company line. Lorraine Carbons. AREA SERVED—Trinidad, British Guiana, Venezuela.

F. A. SIMPSON & COMPANY, 27/31 Henry Street, Port of Spain. Products Sold: Gaumont-Kalee line.

LUCKY SAMAROO AND SONS, P. O. Box 517, Port of Spain. Products Sold: RCA Theatre and Sound Equipment.

WESTREX COMPANY, CARIBBEAN, 9 Edward St., Port of Spain. PERSONNEL—Manager: E. F. Vanderhock. Products Sold: Westrex Corporation line. AREA SERVED—Trinidad, Barbados, British, Dutch, and French Guianas; Leeward and Windward Islands.

Theatre Equipment Manufacturers

Here Is a Complete Market Guide to Filling The Needs of Every Motion Picture Theatre

AIR CONDITIONING DIFFUSERS

Air Devices Co., 17 E. 42nd St., New York 17, N. Y.
Anemostat Corp. of America, 10 East 39th St., New York 16, N. Y.
Tuttle and Bailey Co., Corbin Ave., New Britain, Conn.

AIR CONDITIONING EQUIPMENT

Alton Manufacturing Co., 1112 Ross Ave., Dallas, Texas.
American Blower Corp., 8100 Tireman Blvd., Detroit, Mich.
Baker Refrigeration Corp., Amer. Wheelabrator Co., Mishawaka, Ind.
Chrysler Corp., Airtemp div., 119 Lee St., Dayton 1, O.
Clarage Fan Co., 619 Porter St., Kalamazoo 16, Mich.
Curtis Air Conditioning Co., 1905 Kienlen Ave., St. Louis, Mo.
General Motors Corp., Frigidaire commercial and air cond. div., 300 Taylor St., Dayton 1, O.
Governair Corp., Northwest 3rd St., Oklahoma City, Okla.
National Engineering and Mfg. Co., 519 Wyandotte St., Kansas City, Mo.
Ready Power Co., 11233 Freud Ave., Detroit, Mich.
Trane Co., 206 Cameron Ave., La Crosse, Wis.
Typhoon Air Conditioning Co., Inc., 505 Carroll St., Brooklyn 15, N. Y.
U. S. Air Conditioning Corp., 7900 Tabor Rd., Philadelphia 11, Pa.
Westinghouse Electric Corp., Sturtevant div., 306 6th Ave., Pittsburgh 30, Pa.
Worthington Pump and Machine Corp., Carbondale div., Harrison, N. J.

AIR PURIFICATION

Air Purification Service, 82 Plane St., Newark, N. J.
Connor, W. B. Engineering Corp., 114 E. 32nd St., New York 16, N. Y.
Refresh-Aire Ozonizer Co., 382 Lafayette St., New York 5, N. Y.
Supreme Air Filter Co., 126 W. 21st St., New York 10, N. Y.

AMPLIFIERS

Altec-Lansing Corp., 9356 Santa Monica Blvd., Beverly Hills, Cal.
Ampro Corp., 2839 N. Western Ave., Chicago 18, Ill.
BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
CENTURY PROJECTOR CORP., 729 7th Ave., New York, N. Y.
Fidelity Amplifier Co., 703 Willow St., Chicago 14, Ill.
INTERNATIONAL PROJECTOR CORP., 92 Gold St., New York, N. Y.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
Radio Corp. of America, RCA Victor Div., Camden, N. J.
Trimm Radio Mfg. Co., 1770 W. Berteau Ave., Chicago, Ill.
Wenzel Projector Co., 2505-19 S. State St., Chicago 16, Ill.
WESTREX CORP., 111 Eighth Ave., New York, N. Y.

BOOKKEEPING SYSTEMS

JAY EMANUEL PUBLICATIONS, INC., 246-248 N. Clarion St., Philadelphia 7, Pa.

BOXOFFICES

Lobby Display Frame Co., 549 W. 52nd St., New York 19, N. Y.
Poblocki, Ben B. and Sons Co., 2159 S. Kinnickinnic Ave., Milwaukee 7, Wis.
Universal Corp., 6710 Denton Drive, Dallas 9, Tex.

BOXOFFICE EQUIPMENT

Abbott Coin Counter Co., 143rd St. and Wales Ave., New York, N. Y.
Adair, R. H. Co., 6926 W. Roosevelt Road, Oak Park, Ill.
Apex Brass and Bronze Works, Inc., 429 West Broadway, New York 12, N .Y.
Argus Mfg. Co., 1134 Kilbourne Ave., Chicago, Ill.

Associated Ticket and Register Co., Inc., 346 W. 44th St., New York 18, N. Y.
Bahn, L. Co., 123 W. Canton St., Boston 18, Mass.
Berezny Engineering & Mfg., 4208 Avalon Blvd., Los Angeles 11, Calif.
Blackstone Coin Packer Co., 344 Dayton St., Madison 1, Wis.
Brandt Automatic Cashier Co., Watertown, Wis.
Coinometer Corp., 1223 S. Wabash, Chicago, Ill.
DRIVE-IN THEATRE MFG. CO., div. of Dit-Mco, Inc., 505 W. 9th St., Kansas City, Mo.
GENERAL REGISTER CO., 36-20 33rd St., Long Island City 1, N. Y.
GOLDBERG BROS., 3500 Walnut St., Denver 1, Col.
GoldE Mfg. Co., Heiland div., Denver, Colo.
Johnson Fare Box Co., 4619 Ravenwood Ave., Chicago 40, Ill.
K-Hill Signal Co., 326 W. 3rd St., Uhrichsville, Ohio.
Lamolite Corp., 682 6th Ave., New York 10, N. Y.
PEREY TURNSTILE CO., INC., 101 Park Ave., New York 17, N. Y.
Royal Metal Mfg. Co., 17 N. Michigan Blvd., Chicago 1, Ill.
Sebring, A. G. Co., 2000 N. Oakley, Chicago, Ill.
Taller and Cooper, Inc., 75 Front St., Brooklyn 7, N. Y.

BROOMS AND BRUSHES

(See JANITOR SUPPLIES)

CARBONS

CARBONS, INC., 254 W. 44th St., Room 806, New York, N. Y.
NATIONAL CARBON CO., INC., 30 E. 42nd St., New York 17, N. Y.
Western Mercantile Corp., 70 Pine St., New York 5, N. Y.

CARBON SAVERS

Cali Products Corp, 3719 Marjorie Way, Sacramento, Cal.
Droll Theatre Supply, 317 S. Sangamon, Chicago.
Hanover Carbon Co., 4035 Spruce St., Philadelphia 4, Pa.
Hal I. Huff Manufacturing Co., 659 W. Jefferson, Los Angeles 7, Cal.
Payne Products Co., 2451 W. Stadium Blvd., Ann Arbor, Mich.
Edw. H. Wolk, 1261 S. Wabash, Chicago 5, Ill.

CARPETS

Artloom Carpet Co., Allegheny and Howard, Philadelphia 33, Pa.
Bigelow-Sanford Carpet Co., Inc., 140 Madison Ave., New York 16, N. Y.
Crest Assoc., 630 Ninth Ave., New York, N. Y.
Firth, Inc., 295 5th Ave., New York, N. Y.
Hardwick and Magee, 295 5th Ave., New York, N. Y.
Karagheusian, A. and M. Co., Inc., 295 5th Ave, New York 16, N. Y.
Klearflax Linen Looms, Inc., 63rd and Grand, Duluth, Minn.
Leedom, Thomas L. Co., Bristol, Pa.
Lees, James and Sons Co., Bridgeport, Pa.
Lomax Carpet Mills, Jasper and Orleans St., Philadelphia 34, Pa.
Mohawk Carpet Mills, Inc., 295 5th Ave., New York 16, N. Y.
Philadelphia Carpet Co., Allegheny Ave., at C St., Philadelphia, Pa.
Shelton Looms, I Park Ave., New York, N. Y.
Smith, Alexander and Sons Carpet Co., 295 5th Ave., New York 16, N. Y.

CARPET PADDING

American Hair & Felt Co., Merchandise Mart, Chicago, Ill.
Jack Hayes Seating Service, One Monica Place, Baldwinsville, N. Y.
Sponge Rubber Co., Sheldon, Conn.
U. S. Rubber Co., 1230 6th Ave., New York, N. Y.

CARPET-UPHOLSTERY CLEANING PRODUCTS

Artloom Carpet Co. (Chemical Products div.), Allegheny and Howard, Philadelphia 33, Pa.
Brever Electric Mfg. Co., 5100 N. Ravenswood Rd., Chicago 40, Ill.
Glamorene, Inc., 10 E. 44th St., New York, N. Y.
Hild Floor Machine Co., 740 W. Washington, Chicago, Ill.
Kinner Products Co., 13325 E. Broad St., Pataskala, O.

CASH CONTROL EQUIPMENT

(See BOX OFFICE EQUIPMENT)

CHAIRS

American School and Desk Co., Temple, Tex.
American Seating Co., 9th and Broadway, Grand Rapids 2, Mich.
Griggs Equipment Co., 209 Beale St., Box 630 Belton, Tex.
Heywood-Wakefield Co., Gardner, Mass.
Ideal Seating Co., 519 Ann St., N. W., Grand Rapids, Mich.
International Seat Corp., Union City, Ind.
Irwin Seating Co., 1480 Buchanan Ave., S. E. Grand Rapids, Mich.
Peabody Seating Co., North Manchester, Ind.

CHAIR CUSHIONS

American Texteel Co., Bellefontaine, O.
Dunlop Rubber Co., Sheridan Drive and Riverside Rd., Station B, Buffalo 7, N. Y.
Firestone Tire and Rubber Co., 1200 Firestone Parkway, Akron 17. O.
Jack Hayes Seating Service, One Monica Place, Baldwinsville, N. Y.
Hewitt-Robins, Inc., 240 Kensington Ave., Buffalo 5, N. Y.
Sponge Rubber Products Co., Howe Street, Shelton, Conn.
MASSEY SEATING CO., 160 Hermitage, Nashville, Tenn.
U. S. Rubber Co., mech. rubber goods div., 1230 Ave. of Americas, New York 20, N. Y.

CHAIR REPAIR SERVICE

American Texteel Co., Bellefontaine, O.
Jack Hayes Seating Service, One Monica Place, Baldwinsville, N. Y.
MASSEY SEATING CO., 160 Hermitage, Nashville, Tenn.

CHAIR UPHOLSTERING FABRICS

American Leatherex Corp., 629 Broadway, New York, N. Y.
American Texteel Co., Bellefontaine, O.
Apex Coated Fabrics Co., Inc., 12 E. 22nd St., New York 10, N. Y.
Asher and Boretz, Inc., 900 Broadway, New York 3, N. Y.
Athol Mfg. Co., 120 E. 41st St., New York 17, N. Y.
Bolta Products Sls., Inc., 151 Canal St., Lawrence, Mass.
Celanese Corp. of America, plastic div., 180 Madison Ave., New York 16, N. Y.
Chicopee Sales Corp., 40 Worth St., New York 13, N. Y.
Cotan Corp., 331 Oliver St., Newark, N. J.
DuPont, E I. deNemours and Co., 350 5th Ave., New York 1, N. Y.
Firestone Rubber and Latex Products Co., Firestone Foamex div., Fall River, Mass.
Goodall Fabrics, Inc., 525 Madison Ave., New York 22, N. Y.
Goodrich, B. F. Co., 500 S. Main St., Akron, O.
Jack Hayes Seating Service, One Monica Place, Baldwinsville, N. Y.
Hoenigsberger, H. L., 149 N. Wacker Drive, Chicago 6, Ill.
MANKO FABRIC CO., 630 9th Ave., N. Y. 36, N. Y.
Masland Duraleather Co., 3234-90 Amber St., Philadelphia 34, Pa.
MASSEY SEATING COMPANY, 160 Hermitage, Nashville, Tenn.
Pantasote Co., Inc., 444 Madison Ave., New York 22, N. Y.
Rayon Corp. of America, 350 5th Ave., New York 1, N. Y.
Textileather Corp., 607 Madison Ave., Toledo 3, O.
Tufford Seat Covers, Inc., 140 West "B" St., San Diego 1, Calif.
U. S. Rubber Co., 1230 Ave. of Americas, New York 22, N. Y.

CHANGEOVERS

Essannay Electric Mfg. Co., 1438 N. Clark St., Chicago 10, Ill.
Weaver Mfg. Co., 1353 E. Firestone Blvd., Los Angeles 1, Cal.

COIN CHANGERS

(See BOXOFFICE EQUIPMENT)

COLOR WHEELS

Best Devices Co., 10516 Western Ave., Cleveland 11, O.
Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
Kliegl Bros., 321 W. 50th St., New York 19, N. Y.

CONDENSERS

Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
Fish-Schurman Corp., 230 E. 45th St., New York 17, N. Y.

CROWD CONTROL EQUIPMENT

Apex Bronze and Brass Works, Inc., 429 West Broadway, New York 12, N. Y.
Lawrence Metal Products, Inc., Lynbrook, L. I., N. Y.
PEREY TURNSTILE CO., INC., 101 Park Ave., New York 17, N. Y.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Universal Corp., 6710 Denton Drive, Dallas 9, Texas.

CURTAINS

(See DECORATION)

CURTAIN CONTROLS AND TRACK

Automatic Devices Co., 2011 S. 12th St., Allentown, Pa.
Clancy, J. R., Inc., 1010 W. Belden Ave, Syracuse 4, N Y.
Knoxville Scenic Studios, 609 Phillips Ave., Knoxville 4, Tenn.
NOVELTY SCENIC STUDIOS, INC., 432 E. 91st St., New York 28, N. Y.
Vallen, Inc., 225 Bluff St., Akron 4, O.
Weaver Mfg. Co., 1353 E. Firestone Blvd., Los Angeles 1, Calif.

DECORATION

Bil-Art Studios, Inc., 548 W. 53rd St., New York 19, N. Y.
Brodsky, David E. Assoc., 242 N. 13th St., Philadelphia 7, Pa.
Crest Assoc., 630 Ninth Ave., New York, N. Y.
Dazians, Inc., 142 W. 44th St., New York, N. Y
F & Y Building Service, 329 E. Town St., Columbus, Ohio
Frankel Assoc., 218 West 47th St., New York 19, N. Y.
Great Western Stage Equip. Co., Inc., 1324-26 Grand Ave., Kansas City, Mo.
Griewe, Inc., 2426-32 Reading Rd., Cincinnati, O.
Grosh, R. L. and Sons Scenic Studios, 4114 Sunset Blvd., Hollywood 27, Cal.
Knoxville Scenic Studios, 609 Phillips Ave., Knoxville 4, Tenn.
MAHARAM FABRIC CORP., 130 W. 46th St., New York 19, N. Y.
Manko Fabrics, 630 9th Ave., New York 36, N. Y.
Marsh Wall Products, Inc., 5082 Main St., Dover, O.
Metropolitan Scenic Studios, Inc., 1611 Davenport St., Omaha, Neb.
H. R. Mitchell, Inc., Hartselle, Ala.
Mosaic Tile Co., The, Zanesville, O.
Northwest Scenic Studios, 607 Marshall St., N. E. Minneapolis, Minn.
NOVELTY SCENIC STUDIOS, INC., 426-432 E. 91st St., New York 28, N. Y.
Paramount Decorating Co., Inc., 311 N. 13th St., Philadelphia 7, Pa.
Premier Studios, 414 W. 45th St., New York 19, N. Y.
Rambusch Decorating Co., 2 W. 45th St., New York 19, N. Y.
Rau Studios, Inc., 104 W. 42nd St., New York, N. Y.
Riseman, William, Assoc., 162 Newbury St., Boston, Mass.
Teichert, Hanns R. Studios, 1311 N. Wells St., Chicago, Ill.
Weiss, I. and Sons, Inc., 445 W. 45th St., New York 19, N. Y.

DEODORANTS

(See EXTERMINATOR SUPPLIES AND SERVICES)

DIMMER EQUIPMENT

(See SWITCHBOARD)

DISPLAY FRAMES

Bevelite, Inc., 1615 Cordova St., Los Angeles 7, Calif.
Champion Metal Moulding Corp., 234 E. 151st St., New York 51, N. Y.
Lobby Display Frame Corp., 549 N. 52nd St., New York 19, N. Y.
Peoples Display & Frame Co., 1515 W. Olympic Blvd., Montabello, Calif.
Poblocki, Ben B. and Sons Co., 2159 S. Kinnickinnic Ave., Milwaukee 7, Wis.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Romar Vide Co., Chetek, Wisconsin
Sioux Metal Products Co., P. O. Box 430, Bedford, O.
Stanley Displays, Inc., 442 W. 42nd St., New York 18, N. Y.
Universal Corp., 6710 Denton Drive, Dallas 9, Tex.
West Coast Sheet Metal Works, 935 Venice Blvd., Los Angeles, Calif.

DOORS AND DOOR HARDWARE

Bloomfield Mfg. Co., Inc., Bloomfield, Ind.
Kawneer Co., 2510 Front St., Niles, Mich.
Lawrence Metal Products, Inc., 434 Broadway, New York 13, N. Y.
Norton Door Closer Co., div., Yale and Towne Mfg. Co., Chicago 18, Ill.
Norton Lasier Co., Inc., 466 W. Superior St., Chicago, Ill.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Rixon Mfg. Co., 4450 W. Carroll Ave., Chicago, Ill.
Stanley Works, 111 Elm St., New Britain, Conn.
Universal Corp., 6710 Denton Drive, Dallas 9, Texas
Vonnegut Hardware Co., 402 West Maryland St., Indianapolis 4, Ind.
West Coast Sheet Metal Works, 935 Venice Blvd., Los Angeles, Calif.
Yale and Towne Mfg. Co., Stamford div., 200 Henry St., Stamford, Conn.

DRAPERY AND WALL COVERINGS

(See DECORATION)

DRINKING FOUNTAINS

Ebco Mfg. Co., 401 W. Town St., Columbus, O.
General Motors Corp., Frigidaire, commercial and air cond. div., 300 Taylor St., Dayton 1, O.
Pure Filter Corp., of America, 440 Lafayette St., New York 3, N. Y.
Sunroc Refrigeration Co., Glen Riddle, Pa.
Voigt Co., 1649 N. Broad St., Philadelphia 2, Pa.
Westinghouse Electric Corp., 983 Page Blvd., East Springfield, Mass.

DRIVE-IN

(See SEPARATE CLASSIFICATION, PAGE 98.)

EMERGENCY LIGHTING

Carpenter Mfg. Co., 2 Bradley St., Summerville, Mass.
Electric Storage Battery Co., 41 S. 15th St., Phila. 2, Pa.
Fairbanks, Morse and Co., 600 S. Michigan Ave., Chicago 5, Ill.
Lamplighter Products Co., 95 Atlantic Ave., Brooklyn, N. Y.
Onan, D. W. Sons Co., 43 Royalston Ave., Minneapolis, Minn.
Ready Power Co., 11233 Freud Ave., Detroit, Mich.
Square D Co., 6060 Rivaud St., Detroit 11, Mich.
U-C Lite Co., 1050 Hubbard St. Chicago, Ill.

EXTERMINATOR SUPPLIES AND SERVICES

American Processing Co., 720 Euclid Ave., Cleveland, O.
Brulin & Co., 2939 Columbia Ave., Indianapolis, Ind.
Chemical Insecticide Corp., 57 13th St., Brooklyn 15, N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore 31, Md.
Sani-Toil Labs., 121 Main St., Joplin, Mo.
Todd Shipyards Corp., 81-16 45th Ave., Queens, New York, N. Y.
West Disinfecting Co., 42-16 West Street, Long Island City, N. Y.

FILM CASES AND CABINETS

All-Steel Equipment Co., Inc., 741 Griffith Ave., Aurora, Ill.
Chicago Metal Mfg. Co., 3724 S. Rockwell St., Chicago 32, Ill.
GOLDBERG BROS., 3500 Walnut St., Denver 1, Colo.
GoldE Mfg. Co., Heiland div., Denver, Colo.
Hawthorne Mfg. Co., 2930 37th Ave., S. Minneapolis, Minn.
Neumade Products Corp., 250 W. 57th St., New York 19, N. Y.

FIRE EXTINGUISHERS

American LaFrance-Foamite Corp., 100 E. LaFrance St., Elmira, N. Y.
Bostwick Laboratories, 706 Bostwick Ave., Bridgeport, Conn.
Buffalo Fire Appliance Corp., 290 Main St., Buffalo 2, N. Y.
General Detroit Corp., 2270 E. Jefferson Ave., Detroit 7, Mich.
Pyrene Mfg. Co., 560 Belmont Ave., Newark, N. J.
Snyder, M. L. and Son, Jasper and York Sts., Philadelphia 25, Pa.

FIRE HOSE

Buffalo Fire Appliance Corp., 290 Main St., Buffalo 2, N. Y.
General Detroit Corp., 2270 E. Jefferson Ave., Detroit 7, Mich.

FIREPROOFING

Albi Mfg. Co., Inc., 29 Bartholomew Ave., Hartford 6, Conn.

FIRE SHUTTERS

Best Devices Co., 10516 Western Ave., Cleveland 11, O.
Trumbull Electric Mfg. Co., 41 Woodford Ave., Plainville, Conn.

FLOODLIGHTS (See LIGHTING)

FLOORING MATERIALS

Armstrong Cork Co., 1240 State St., Lancaster, Pa.
Congoleum-Nairn, Inc., 195 Belgrove Drive, Kearney, N. J.
Freemont Rubber Co., 115 McPherson Hwy, Fremont, O.
Goodyear Tire and Rubber Co., Inc., flooring div., 600 W. 58th St., New York 19, N. Y.
Homasote Co, Fernwood Rd., Trenton 3, N. J.
Hood Rubber Co., div., B. F. Goodrich Co, Watertown, Mass.
Mosaic Tile Co., Zanesville, Ohio.
National Terrazzo and Mosaic Assn., 1420 New York Ave., N. W., Washington 5, D. C.
Sloane-Blabon Corp., 295 5th Ave., New York 16, N. Y.
Tayler Mfg. Co., 3056 W. Meinecke St, Milwaukee, Wis.
Tile-Tex Co., Inc., 1232 McKinley St., Chicago Heights, Ill.

FLUORESCENT PAINT AND LIGHTING

Black Light Products Co., 47 E. Lake St., Chicago 1, Ill.
Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn
General Luminescent Corp., 638 S. Federal St., Chicago, Ill.
Guth Bros., 2615 Washington Blvd., St. Louis 3, Mo.
Strobite Co., 75 W. 45th St., New York 36, N. Y.
Switzer Bros., 4732 St. Clair Ave, Cleveland, O.

FOOTLIGHTS (See LIGHTING)

FRONTS

Formica Insulation Co., 4654 Spring Grove Ave., Cincinnati 32, O.
Kawneer Co., 2510 Front St., Niles, Mich.
Poblocki, Ben B. Sons and Co., 2159 S. Kinnickinnic Ave., Milwaukee 7, Wis.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Seaporcel Porcelain Metals, Inc., 28-20 Borden Ave., Long Island City 1, N. Y.
Toledo Porcelain Products Co., 2275 Smead Ave., Toledo, O.

FURNITURE

Heywood-Wakefield Co., Gardner, Mass.
Royal Metal Mfg. Co., 175 N. Michigan Blvd., Chicago 1, Ill.

GENERATORS

(See MOTOR GENERATORS)

GLASS, STRUCTURAL

Libby-Owens-Ford Glass Co., 1021 Nicholas Bldg., Toledo 3, O.
Owens-Illinois Glass Co., Ohio Bldg., Toledo, O.
Pittsburgh-Corning Corp., Grant Bldg., Pittsburgh 22, Pa.
Priest-Glass, Inc., 8 E. 12th St., New York, N. Y.

HAND DRYERS

American Dryer Corp., 1324 Locust St., Philadelphia, Pa.
Chicago Hardware Foundry Co., Sani-Dri div., 2500 N. Commonwealth Ave., Chicago, Ill.
Electric-Aire Engineering Corp., 209 W. Jackson Blvd., Chicago, Ill.

HAND RAILS

(See CROWD CONTROL EQUIPMENT)

HEARING AIDS

Dictograph Products Co., Inc., 580 5th Ave., New York 19, N. Y.
Sonotone Corp., Saw Mill River Rd., Elmsford, N. Y.
Telesonic Theatrephone Corp., Times Square Bldg., New York 18, N. Y.
Trimm Radio Mfg. Co., 1770 W. Berteau Ave., Chicago, Ill.
Western Electric Co., 195 Broadway, New York 7, N. Y.
Zenith Radio Corp., 6001 Dickens St., Chicago 39, Ill.

HEATING SYSTEMS

American Foundry and Furnace Co, Washington and McClun, Bloomington, Ill.
American Radiator and Standard Sanitary Corp., 40 W. 40th St., New York 18, N. Y.
Grinnell Co., Inc., 260 W. Exchange St., Providence, R. I.
Petroleum Heat and Power Co., Southfield Ave., Stamford, Conn.
Skinner Heating and Ventilating Co., Inc., 1948-60 N. 9th St., St. Louis, Mo.
U. S. Radiator Co., 535 Griswold St., Detroit, Mich.

INSULATION, ACOUSTICAL-THERMAL

Aetna Plywood and Veneer, 1741 Elston Ave., Chicago 22, Ill.
Alfol Insulation Co., Chrysler Bldg., New York, N. Y.
Celotex Corp., 120 S. LaSalle St., Chicago 3, Ill.
Certain-Teed Products Corp., Ardmore, Pa.
Formica Insulation Co., 4654 Spring Grove Ave., Cinn. 32, Ohio.
Hall, C. R. and Sons, 516 5th Ave., New York, N. Y.
Homasote Co., Fernwood Ave., Trenton 3, N. J.
Insulite Co., 1100 Builders Exchange Bldg., Minneapolis, Minn.
Johns-Manville Corp., 22 E. 40th St., N. Y. C. 16, N. Y.
Keasbey and Mattison Co, Ambler, Pa.
Kelly Island Lime and Transport Co., Leader Bldg., Cleveland, O.
Kimberly-Clark Corp., Neenah, Wis.
Marsh Wall Prods. Co., 4682 Main, Dover, Ohio.
National Gypsum Co., 325 Delaware St., Buffalo 2, N. Y.
Owens-Corning Fiberglas Co., 2033 Nicholas Bldg., Toledo 1, O.
PermaStone Co., 719 Hudson St., Columbus, Ohio.
Pittsburgh-Corning Corp., Grant Bldg., Pittsburgh 22, Pa.
Sprayed Insulation Co., Inc., 56-58 Crittenden St., Newark, N. J.
U. S. Gypsum Co., 300 W. Adams St., Chicago, Ill.
U. S. Plywood Corp., 55 W. 44th St., New York 18, N. Y.
U. S. Rock Wool Co., 40 S. Main, Salt Lake City 1, Utah.
Universal Zonolite Insulation Co., 135 S. LaSalle St., Chicago 3, Ill.
Wood Conversion Co., 1st National Bldg., St. Paul 1, Minn.

INTERCOMMUNICATION SYSTEMS

DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
EPRAD, 1206 Cherry St., Toledo, O.
Molograph, Inc., Servus-Fone div., (Electronic Car Hop), 4431 W. Lake St., Chicago 24, Ill.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
R. W. Neill Co., 1811 Carroll Ave., Chicago 12, Ill.
Operadio Mfg. Co., St. Charles, Ill.
WESTREX CORP., 111 8th Ave., New York 11, N. Y.

JANITOR SUPPLIES

Afta Solvents Corp., 470 W. 128th St., New York 27, N. Y.
Artloom Carpet Co., (Chemical Products div.), Allegheny and Howard, Phila. 33, Pa.
Breuer Electric Mfg. Co., 5148 N. Ravenswood Ave., Chicago 40, Ill.
Fuld Bros., 702 S. Wolfe St., Baltimore 31, Md.
Fuller Brush Co., The, Main St., Hartford, Conn.
Holcomb, J. I. Mfg. Co., 1601 Barth Ave, Indianapolis, Ind.
Horn, A. C. Co., 43-36 Tenth St., Long Island City 1, N. Y.
Hospital Specialty Co., The, 1991 E. 66th St., Cleveland 3, O.
Kinner Products Co., 13325 E. Broad St., Pataskala, O.
MELRO ENTERPRISES, Cramer Road, Poughkeepsie, N. Y.
Morton Salt Co., 310 S. Michigan Ave., Chicago 4, Ill.
Sanitex Co., 14182 Meyers Rd., Detroit 27, Mich.
Straubel Paper Co., Green Bay, Wis.
U. S. Sanitary Specialties Co., 435 S. Western Ave., Chicago 12, Ill.
West Disinfecting Co., 42-16 West St., Long Island City, N. Y.

LADDERS

Chesbro-Whitman Co., Inc., 38-21 12th St., Long Island City 1, N. Y.
Dayton-Harker Co., 2337 Gilbert Ave., Cincinnati 6, O.
R. D. Werner Co, 295 5th Ave., New York, N. Y.

LAMPS, INCANDESCENT OR FLUORESCENT

Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
General Electric Co., lamp div., Nela Park, Cleveland 13, O.
Kliegl Bros. Universal Electric Stage Lighting Co., 321 W. 50th St., New York 19, N. Y.
Radiant Lamp Corp., 300 Jelliff Ave., Newark 8, N. J.
Save Electric Corp., 615 Front St., Toledo 5, O.
Sheldon Electric Co., Inc., 76 Colt St., Irvington, N. J.
Sylvania Electric Products, Inc., 500 5th Ave., New York 18, N. Y.
Westinghouse Electric Corp., lamp div., Bloomfield, N. J.
Westinghouse Electric Corp., lighting div., Edgewater Park, Cleveland, O.

LENSES

American Optical Co., 19 Doat St., Buffalo 11, N. Y.
BAUSCH AND LOMB OPTICAL CO., 635 St. Paul St., Rochester 2, N. Y.
Bell & Howell Co., 7100 McCormick, Chicago, Ill.
General Scientific Corp., 5151 W. 65th St., Chicago 38, Ill.
Ilex Optical Co., 690 Portland St., Rochester 5, N. Y.
Isco Optical Works, 705 Bronx River Rd., Bronxville 8, N. Y.
KOLLMORGEN OPTICAL CORP., 347 King St., Northampton, Mass.
Pacific Optical Corp., 5965 W. 98th St., Los Angeles, Calif.
Projection Optics Co., Inc., 330 Lyell Ave., Rochester 6, N. Y.
Radiant Mfg. Corp., 2627 W. Roosevelt Rd., Chicago 8, Ill.
RCA Theatre Equipment Div., Camden, N. J.
Wollensak Optical Mfg. Co., 350 Hudson Ave., Rochester, N. Y.
Zenith Optical Co., Huntington, W. Va.

LIGHTING

Allbrite Electric Co., 3917 Kedzie Ave., N. Chicago, Ill.
Black, M., Mfg. Co. 300 N. 3rd St., Philadelphia 6, Pa.
Brightlight Reflector Co., Fairfield Ave. and State St., Bridgeport 5, Conn.
Capitol Stage Lighting Co., 527 W. 45th St., New York 19, N. Y.
Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
J. H. Channon Co., 1455 Hubbard, Chicago, Ill.
Clancy, J. R. Inc., 1010 Belden Ave., Syracuse 4, N. Y.
Curtis Lighting, Inc., 6135 W. 65th St., Chicago 38, Ill.
Cutler-Hammer, Inc., 315 N. 12th St., Milwaukee 1, Wis.
General Electric Co., lamp div., Nela Park, Cleveland 12, O.
General Luminescent Corp. 638 S. Federal St., Chicago, Ill.
GoldE Manufacturing Co., Heiland div., Denver, Colo.
Grimes Manufacturing Co., Urbana, O.
Guth Bros., 2615 Washington Blvd., St. Louis 3, Mo.
Hub Electric Co., 2225 Grand Ave., Chicago 12, Ill.
Jewell Products Co., 266 Glenwood Ave., Bloomfield, N. J.
Kliegl Bros., Universal Electric Stage Lighting Co., 321 W. 50th St., New York 19, N. Y.
Major Equipment Co., 4603 Fullerton Ave., Chicago 39, Ill.
Mitchell, Hubert, Industries, Inc., Hartsell, Ala.
Revere Electric Manufacturing Co., 6009 N. Broadway, Chicago 4, Ill.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Spare Electric Corp., 18222 Lanken, Cleveland 19, O.
Sperti, Inc., Norwood Station, Cincinnati 12, O.
STRONG ELECTRIC CORP., 87 City Park Ave., Toledo, O.
Summerour and Devine, Inc., 115 W. 17th St., Kansas City 8, Mo.
Taito, Ltd., 39 E. 50th St., New York, N. Y.
Tiffin Scientific Studios, Tiffin, O.
Voigt Co., 1649 N. Broad St., Philadelphia 22, Pa.
Westinghouse Electric Corp., lamp div., Bloomfield, N. J.
Westinghouse Electric Corp., lighting div., Edgewater Park, Cleveland, O.
Winston, Charles J. and Co., Inc., 2 W. 47th St. New York, N. Y.

LOBBY HARDWARE

Altschul, A. H. Co., 9-11 White St., New York 13, N. Y.
Apex Brass and Bronze Works, Inc., 42 West Broadway, New York 12, N. Y.
Bevelite, Inc, 1615 Cordova St., Los Angeles 7, Calif.
Art in Metal Co., 511 Manhattan Ave., Brooklyn 22, N. Y.
Compco Corp., 2257 W. St. Paul Ave., Chicago 47, Ill.
Lawrence Metal Products, Inc., Lynnwood, L. I., N. Y.
Lawson, F. H. Co., Evans and Whateley Sts, Cincinnati 4, O.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Sioux Metal Products Co., P. O. Box 430, Bedford, O.
Smokador Mfg. Co., Inc., Nelson St, Bloomfield, N. J.
Universal Corp., 6710 Denton Drive, Dallas 9, Tex.

MAGAZINES

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
CENTURY PROJECTOR, 729 Seventh Ave., New York, N. Y.
Cinematic Corp., 122 Washington St., Bloomfield, N. J.
GOLDBERG BROS., 3500 Walnut St., Denver, Colo.
GoldE Mfg. Co., Heiland div., Denver, Colo.
Motiograph, Inc, 4431 W. Lake, Chicago, Ill.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
Natural Vision Corp., 1710 N. LaBrea, Hollywood 46, Calif.
Radio Corporation of America, RCA Victor Div., Theatre Equip. Sales, Camden, N. J.
Strobl Dodge, P. O. Box 24, Cincinnati 30, O.
Edw. H. Wolk, 1241 S. Wabash, Chicago, Ill.
Wenzel Projector, 2505 S. State, Chicago, Ill.

MARQUEES (See SIGNS & MARQUEES)

MARQUEE LETTERS

(See SIGNS AND MARQUEES)

MATS, RUBBER

Altschul, A. H. Co., 9-11 White St., New York 13, N. Y.
AMERICAN MAT CORP., 2018 Adams St., Toledo 2, O.
American Tile and Rubber Co., Perrine Ave., Trenton, N. J.
Crest Assoc., 630 Ninth Ave., New York, N. Y.
Durable Mat Co., 2926 16th St., S. W., Seattle, Wash.
Fremont Rubber Co., 115 McPherson Hwy, Fremont, O.
Goodyear Tire & Rubber Co., flooring div., 600 W. 58th St., New York 19, N. Y.
Musson, R. C. Rubber Co., 10 S. College Ave, Akron, O.
National Mat Co., 72 Kingsley St., Buffalo, N. Y.
Perfo Mat and Rubber Co., 281 5th Ave., New York 16, N. Y.
U. S. Rubber Co., mech. rubber goods div., 1230 Ave. of Americas, New York 20, N. Y.

MIRRORS

Carvarts, Inc, 7025 Santa Monica Blvd., Hollywood 38, Calif.
Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 19, Pa.

MOTOR GENERATORS

Automatic Devices Co., 114 North 8th Street, Allentown, Pa.
BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
Hertner Electric Co., 12690 Elmwood Ave., Cleveland 11, Ohio.
Imperial Electric Co., 84 Ira Ave., Akron, O.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
Robin, J. E., Inc., 267 Rhode Island Ave., East Orange, N. J.

ORNAMENTAL METAL WORK

Architectural Bronze Studios, Inc., 2600 S. 10th St., St. Louis, Mo.
Artcraft Ornamental Iron Co., 724 E. Hudson St., Columbus, O.
International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Universal Corp., 6710 Denton Drive, Dallas 9, Tex.

PAINT

NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
Pabco Products, Inc., 475 Brannan St., San Francisco 19, Calif.
Spatz Paint Industries, Inc., 5237 Manchester St., St. Louis 10, Mo.
Tnemec Co., Inc., 124 W. 23rd Ave., Kansas City, Mo.

PLUMBING FIXTURES

American Radiator and Standard Sanitary Corp., 40 W. 40th St., New York 18, N. Y.
Bradley Washfountain Co., 2203 W. Michigan St., Milwaukee 1, Wis.
Crane Co., 836 S. Michigan Blvd., Chicago 1, Ill.
Kohler Co., Kohler, Wis.
Safeway Sanitation Co., 75 Argyle Rd., Eggertsville 21, N. Y.
Sexauer, J. A. Mfg. Co., Inc., 2503-5 3rd Ave., New York 5, N. Y.
Sperzel Sanitary Seat Co., 123 14th Ave., S. Minneapolis, Minn.
Standard Art, Marble and Tile Co., 117 "D" Street, N. W. Washington, D. C.

PRE-FAB FRONTS

(See FRONTS)

PREMIUM DISTRIBUTORS

Metro Premium, 334 W. 44th St., New York, N. Y.
Price Theatre Premiums, 352 W. 44th St., New York, N. Y.
Shure, N. and Co., 200 W. Adams St., Chicago 6, Ill.
West Bend Aluminum Co., West Bend, Wis.

PROJECTION LAMPS

ASHCRAFT, C. S. MFG. CO., 3632 38th St., Long Island City 1, N. Y.
BALLANTYNE CO, 1712 Jackson St., Omaha 2, Neb.
McAuley, J. E. Mfg. Co., 554 W. Adams St., Chicago 6, Ill.
Motiograph, Inc, 4431 W. Lake St., Chicago 24, Ill.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Radio Corp. of America, RCA Victor div., Theatre Equip. Sales, Camden, N. J.
STRONG ELECTRIC CORP. 87 City Park Ave., Toledo, O.
WESTREX CORP., 111 8th Ave., New York 11, N. Y.

PROJECTOR INTERLOCKS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
CENTURY PROJECTOR, 729 7th Ave., New York, N. Y.
Motiograph, Inc., 4431 W. Lake, Chicago, Ill.
Natural Vision Corp, 1710 N. LaBrea, Hollywood, Calif.

PROJECTORS PARTS

La Vezzi Machine Works, 4635 West Lake St., Chicago 66, Ill.

PROJECTORS, 35mm

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
CENTURY PROJECTOR CORP., 729 7th Ave., New York 19, N. Y.
INTERNATIONAL PROJECTOR CORP. 55 LaFrance Ave., Bloomfield, N. J.
La Vezzi Machine Works, 4635 W. Lake St., Chicago 66, Ill.
Motiograph, Inc., 4431 W. Lake St., Chicago 34, Ill.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
PHILLIPS PROJECTOR CO., Eindhoven, Netherlands.
Paromel Electronics Corp., 2048 W. North Ave., Chicago 47, Ill.
Radio Corp. of America, RCA Victor Div., Theatre Equip. Sales, Camden, N. J.
S.O.S. CINEMA SUPPLY, 602 W. 52nd St., New York 19, N. Y.
Star Cinema Supply Co., 447 W. 52nd St., New York, N. Y.
Weber Machine Corp., 59 Rutter St., Rochester 6, N. Y.
Wenzel Projector Co., 2505-19 S. State St., Chicago 16, Ill.
WESTREX CORP., 111 8th Ave., New York 11, N. Y.

PROJECTORS, 70mm

CENTURY PROJECTOR CORP., 729 7th Ave., New York 19, N. Y.
CINE' ECCANICA OF MILAN — Distributor: CINEMATOGRAPH INTERNATIONAL, 341 W. 44th St., New York 36, N. Y.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
PHILLIPS PROJECTOR COMPANY, Eindhoven, Netherlands.
TODD-AO CORP., 1600 Broadway, New York 19, N. Y.

PROJECTORS, 16mm

Ampro Corp., 2835 N. Western Ave., Chicago 18, Ill.
Bell and Howell Company, 7183 McCormick Rd., Chicago, Ill.
DeVry Corp., 1111 Armitage Ave., Chicago, Ill.
Radio Corp. of America, RCA Victor div., Theatre Equip. Sales, Camden, N. J.
Victor Animatograph Corp., Davenport Bank Bldg., Davenport, Ia.

RECTIFIERS

ASHCRAFT, C. S. MFG. CO., 3632 38th St., Long Island City 1, N. Y.
BALLANTYNE CO, 1712 Jackson St., Omaha 2, Neb.
Continental Electric Co. (Rectifier Tubes), 715 Hamilton St., Geneve, Ill.
Forest-Harrison, Inc., 122 Washington St., Bloomfield, N. J.
Carver Electric Co., 327 Carter St., Union City, Ind.
Gordos Corp. (Rectifier Tubes), 250 Glenwood Ave., Bloomfield, N. J.
Kneisley Electric Co., 333 Woodruff St., Toledo 3, O.
Mallory, P. R. and Co., Inc., 3029 E. Washington St., Indianapolis 6, Ind.
Motiograph, Inc., 4431 W. Lake St., Chicago 34, Ill.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Radio Corp. of America, RCA Victor div., Theatre Equip. Sales, Camden, N. J.
Reevell Mfg. Co. (Rectifier Tubes), 5217 Euclid Ave., Cleveland 3, Ohio
J. E. Robin, 267 Rhode Island Ave., E. Orange, N. J.
STRONG ELECTRIC CORP., 87 City Park Ave., Toledo, O.

REEL-END ALARMS

American Theatre Supply Company, Inc., 2300 First Avenue, Seattle 1, Wash.

REELS AND REWINDS

Best Devices Co., 10516 Western Ave., Cleveland 11, O.
General Devices & Eng. Co., 1147 N. McCadden Place, Hollywood 38, Calif.
GOLDBERG BROS., 3500 Walnut St., Denver 1, Colo.
Gold€ Mfg. Co., Heiland div., Denver, Colo.
Griswold Machine Works, Port Jefferson, N. Y.
Natural Vision Corp., 1710 N. LaBrea, Hollywood 46, Calif.
Neumade Prods. Co., 250 W. 57th St., New York 19, N. Y.
Weaver, Fred Co., 1639 E. 102nd St., Los Angeles 2 Calif.
Wenzel Projector, 2505 S. State St., Chicago 16, Ill.
West Coast Sheet Metal Works, 935 Venice Blvd., Los Angeles, Calif.

REFLECTORS

BAUSCH AND LOMB OPTICAL CO., 625 St. Paul St., Rochester, N. Y.
Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
Fish-Schurman Corp., 230 E. 45th St., New York 17, N.Y.
Heyer-Shultz, Inc., Cedar Grove, New Jersey
McAuley, J. E., Mfg. Co., 554 W. Adams St., Chicago 6, Ill.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
STRONG ELECTRIC CORP., 87 City Park Ave., Toledo, O.

SAFES

Ballam, Thomas F. Co., 1206 7th Ave., N., St. Petersburgh, Fla.
Chicago Metal Mfg. Co., 3724 S. Rockwell St., Chicago 32, Ill.
Hawthorne Mfg. Co., 2930 37th Ave., S. Minneapolis, Minn.
Mosler Safe Co., 320 5th Ave., New York City 1, N. Y.

SANITARY SUPPLIES AND EQUIPMENT (See JANITOR SUPPLIES)

SCREENS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
Bodde Screen Co., 829 Venice Blvd., Los Angeles 34, Calif.
Carpenter, L. E. & Co. (Vicra-Lite div.), Wharton, N. J.
Da-Lite Screen Co., 2723 N. Crawford Ave., Chicago 39, Ill.
Hurley Screen Co., 96-17 Northern Blvd., Corona, L. I., New York
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
Perkins Theatre Supply, 505 Pearl St., Buffalo, N. Y.
Radiant Mfg. Corp., 2627 W. Roosevelt Rd., Chicago 8, Ill.
Radio Corp. of America, RCA Victor div., Theatre Equip. Sales, Camden, N. J.
Technikote Corp., 63 Seabring St., Brooklyn 31, N. Y.
J. E. Robin, Inc., 267 Rhode Island Ave., East Orange, N. J.
B. F. Shearer Co., 2318 Second Ave., Seattle 1, Wash.
Trans-Lux Corp., 1270 Avenue of the Americas, New York, N. Y.
Vocalite Screen Corp., 19 Debevoise Ave., Roosevelt, N. Y.
WALKER-AMERICAN CORP., 2665 Delmar Blvd., St. Louis 6, Mo.
Williams Screen Co., 1620 Summit Lane Blvd., Akron, O.

SCREEN FRAMES

Artcraft Strauss Sign Co., 830 12th Ave., N. Y. 19, N. Y.
BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
R. H. Mitchell & Co., Hartselle, Ala.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
Hollywood Curvescope Frame Co., 2311 Foshay Towers, Minneapolis 2, Minn.
Knoxville Scenic Studios, 609 Phillips Ave., Knoxville 4, Tenn.
Nick Mulone and Son, Cheswick, Pa.
Selby Industries, 1350 Ghent Hills Rd., Akron 13, O.
Technikote Corp., 165 Clermont Ave., Brooklyn 5, N. Y.
Unistrut Products Co., 1013 W. Washington Blvd., Chicago 7, Ill.

SIGNS, ADMISSION

(See BOXOFFICE EQUIPMENT)

SIGNS, DIRECTIONAL AND EXIT

American Metalcraft Corp., 1009 S. 8th St., St. Joseph, Mo.
Ardley, 1010 Castle Hall Ave., New York 72, N. Y.
Bahn, L., Co., 123 W. Canton St., Boston 18, Mass.
Beach Co., Coshocton, O.
Century Lighting Inc., 521 W. 43rd St., New York, N. Y.
DRIVE-IN THEATRE MFG. CO., div. of Dit-Mco, Inc., 505 W. 9th St., Kansas City 5, Mo.
Federal Electric Co., Inc., 8700 S. State St., Chicago 19, Ill.
Ingram-Richardson Mfg. Co., 32nd St., Beaver Falls, Pa.
Kliegl Bros., 321 W. 50th St., New York 19, N. Y.
Rem-Lite, Inc., 878 Broadway, New York 3, N. Y.
Revere Electric Mfg. Co., 6009 N. Broadway, Chicago 4, Ill.
Sola Electric Co., 4613 W. 16th St., Cicero 50, Ill.
South Bend Neon Sign Co., 215 Garst St., South Bend 18, Ind.
Swanson-Nunn Electric Co., 8th and Oak St., Evansville, Ind.
Voigt Co., 1649 N. Broad St., Philadelphia 22, Pa.

SIGN LETTERS AND MARQUEES

ADLER SILHOUETTE LETTER CO., 11843 West Olympic Blvd., Los Angeles 64, Calif.
Artcraft-Strauss Sign Co., 830 12th Ave., New York, N. Y.
BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
Bevelite, Inc., 1615 Cordova St., Los Angeles 7, Calif.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
Everbrite Electric Sign Co., 1440 N. 4th St., Milwaukee 12, Wisc.
Falk Glass Products Co., 5 Union Square, W., New York 3, N. Y.
Flexlume Sign Corp., 1464 Main St., Buffalo 9, N. Y.
Poblocki Ben B. and Sons Co., 2159 S. Kinnickinnic Ave., Milwaukee 7, Wis.
Sign Animation Corp., 229 W. 42nd St., New York, N. Y.
Sioux Metal Products Co., P. O. Box 430, Bedford, O.
Sola Electric Co., 4613 16th St., Cicero 50, Ill.
Swanson-Nunn Electric Co., 8th and Oak St., Evansville, Ind.
Triple-S Supply Co., 206 First St., San Francisco, Calif.
WAGNER SIGN SERVICE, INC., 218 S. Hoyne Ave., Chicago 12, Ill.

SOUND EQUIPMENT

Ampex Electric Corp., 934 Charter St., Redwood City, Calif.
BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
CENTURY PROJECTOR CORP., 729 7th Ave., New York 19, N. Y.
Cinematic Corp., 122 Washington St., Bloomfield, N. J.
EPRAD, 1206 Cherry St., Toledo, O.
Fine Sound, 711 5th Ave., New York, N. Y.
Hallen Corp., 122 Washington St., Bloomfield, N. J.
INTERNATIONAL PROJECTION CORP., 55 La France Ave., Bloomfield, N. J.
Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago 38, Ill.
Magnasyne Mfg. Co., 5517 Satsuma Ave., N. Hollywood, Calif.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Natural Sound Corp., 1710 N. LaBrea, Hollywood 46, Calif.

Paromel Electronics Corp., 2048 W. North Ave., Chicago 47, Ill.
PHILIPS PROJECTOR COMPANY, Eidhoven Netherlands
Radio Corp. of America, RCA Victor div., Theatre Equip. Sales, Camden, N. J.
Robin, J. E., Inc., 330 W. 42nd St., New York 13, N. Y.
S.O.S. CINEMA SUPPLY, 602 W. 52nd St., New York, N. Y.
STAR CINEMA SUPPLY CO., 447 W. 52nd St., New York, N. Y.
Weber Machine Corp., 59 Rutter St., Rochester 6, N. Y.
Wenzel Projector Co., 2505-19 S. State St., Chicago 16, Ill.
Western Electric Co., 195 Broadway, New York 7, N. Y.
WESTREX CORP., 111 8th Ave., New York, N. Y.

SOUND EQUIPMENT SERVICE

Altec Service Co., 161 6th Ave., New York 13, N. Y.
RCA Service Co., Cherry Hill, N. J.

SPEAKERS AND HORNS

(See SOUND EQUIPMENT)

SPOTLIGHTS

Century Lighting, Inc., 521 W. 43rd St., New York 19, N. Y.
Genarco, Inc., 97-04 Sutphin Blvd., Jamaica 35, N. Y.
GoldE Mfg. Co., Heiland div., Denver, Colo.
Kliegl Bros., Universal Electric Stage Lighting Co., 321 W. 50th St., N. Y. 19, N. Y.
STRONG ELEC. CORP., 87 City Park Ave., Toledo, O.

STAGE HARDWARE

Automatic Devices Co., 2011 S. 12th St., Allentown, Pa.
J. R. Clancy, Inc., 1010 W. Belden Ave., Syracuse 4, N. Y.
Knoxville Scenic Studios, 609 Phillips Ave., Knoxville 4, Tenn.
NOVELTLY SCENIC STUDIO, INC., 432 E. 91st St., New York 28, N. Y.
Vallen, Inc., 225 Bluff St., Akron 4, O.
Weiss, I. and Sons, Inc., 445 W. 45th St., New York 19, N. Y.

STAGE LIGHTING

(See LIGHTING)

STAGE RIGGING

(See STAGE HARDWARE)

STAIR TREADS

AMERICAN MAT CORP., 2018 Adams St., Toledo 2, O.
Fremont Rubber Co., 115 McPherson Hwy., Freemont, O.
Perfo Mat and Rubber Co., 281 5th Ave., New York 16, N. Y.
Safe Tread Co., 30 Vesey St., New York 7, N. Y.
Sioux Metal Products Co., P. O. Box 430, Bedford, O.

SWITCHBOARDS

Adam, Frank Electric Co., 3650 Windsor Place, St. Louis, Mo.
Cutler-Hammer, Inc., 315 N. 12th St., Milwaukee 1, Wis.
Federal Pacific Electric Products Co., 50 Paris St., Newark, N. J.
General Radio Co., 275 Massachusetts Ave., Cambridge, 39, Mass.
Kellogg Switchboard and Supply Co., 6650 S. Cicero St., Chicago 38, Ill.
Kliegl Bros., Universal Electric Stage Lighting Co., 321 W. 50th St., N. Y. 19, N. Y.
Knoxville Scenic Studios, 609 Phillips Ave., Knoxville 4, Tenn.
Major Equipment Co., 4603 Fullerton Ave., Chicago 39, Ill.
Mitchell, Hubert, Industries, Inc., Hartselle, Ala.
Square D Co., 6060 Rivaud St., Detroit 11, Mich.
Superior Electric Co., 83 Laurel St., Bristol, Conn.
Time-O-Matic Co., Danville, Ill.
Trumbull Electric Mfg. Co., 41 Woodford Ave., Plainville, Conn.
Ward Leonard Electric Co., 86 South St., Mt. Vernon, N. Y.

TICKET BOXES

General Register Co., 36-20 33rd St., Long Island City 1, N. Y.
GOLDBERG BROS., 3500 Walnut St., Denver 1, Colo.
GoldE Mfg. Co., Heiland div., Denver, Colo.
Reliance Art Metal Co., 601 W. McMicken St., Cincinnati, O.
Theatre Control Corp., 319 Orleans St., Detroit 7, Mich.

THEATRE TELEVISION

Air Marshall Corp., 12 E. 44th St., New York, N. Y.
DuMont, Allen B. Labs., Inc., Passaic, N. J.
Farnsworth Radio and Television Co., Standard Bldg., Fort Wayne 1, Ind.
General Precision Labs., 63 Bedford Rd., Pleasantville, N. J.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Paramount, Inc., 1501 Broadway, New York, N. Y.
Radio Corp. of America, RCA Victor div., Theatre Equip. Sales, Camden, N. J.
Tele-Screen Corp., 1231 Race St., Philadelphia 7, Pa.
Trad Television, Ashbury Park, N. J.

TEMPERATURE CONTROLS

Barber-Colman Co., 1200 River St., Rockford, Ill.
Johnson Service Co., 507 E. Michigan St., Milwaukee 2, Wis.
Minneapolis-Honeywell Regulator Co., 2747-53 4th Ave., S. Minneapolis 8, Minn.

TICKET ISSUING MACHINES

(See BOXOFFICE EQUIPMENT)

TICKETS

Elliott Ticket Co., 409 Lafayette St., New York 3, N. Y.
Globe Ticket Co., 112 N. 12th St., Philadelphia, Pa.
International Ticket Co., 50 Grafton Ave., Newark 4, N. J.
Keller Ansell Ticket Co., 723 7th Ave., New York 19, N. Y.
National Ticket Co., 201 Pearl St., Shamokin, Pa.
Toledo Ticket Co., 116 Erie St., Toledo, O.

TILE, STRUCTURAL AND ORNAMENTAL

American Encaustic Tiling Co., Inc., P. O. Box 271, Lansdale, Pa.
American Tile and Rubber Co., Perrine Ave., Trenton, N. J.
Arketec Ceramic Corp., Brazil, Ind.
Cambridge Tile Mfg. Co., P. O. Box 71, Station R, Lockland, Cincinnati 15, O.
Mosaic Tile Co., Zanesville, O.
National Fireproofing Corp., 202 E. Ohio St., Pittsburgh 12, Pa.
National Tile Co., 1200 E. 26th St., Anderson, Ind.
Standard Art, Marble and Tile Co., 117 "D" Street, N. W. Washington, D. C.
Tile-Tex Company, Inc., 1232 McKinley St., Chicago Heights, Ill.
U. S. Quarry Tile Co., 730 Renkert Bldg., Canton 2, O.

TOILETROOM ACCESSORIES

(See PLUMBING FIXTURES)

TRAILERS, SLIDES

FILMACK TRAILER CO., 1327 S. Wabash Ave., Chicago, Ill.
NATIONAL SCREEN SERVICE CORP., 630 Ninth Ave., New York 19, N. Y.

TURNSTILES

PEREY TURNSTILE CO., Inc., 101 Park Ave., New York 17, N. Y.

UNIFORMS

Angelica Uniform Co., 1427 Olive St., St. Louis 3, Mo.
S. Appel and Co., Inc., 740 Broadway, New York 3, N. Y.
Brooks Uniform Co., Inc., 75 West 45th St., New York, N. Y.
Maier-Lavaty Co., 2141 Lincoln Ave., Chicago, Ill.
Marcus Ruben, Inc., 625 South State St., Chicago, Ill.
REVERSIBLE COLLAR CO., 111 Putnam Ave., Cambridge, Mass.
Troy Novelties Co., 5 Union St., Troy, N. Y.

VACUUM CLEANERS

Ace Co., 122 W. Washington St., Ocala, Fla.
Allen Billmyre div., Lamson Corp., 425 Lamson St., Syracuse 1, N. Y.
BREUER ELECTRIC MFG. Co., 5100 N. Ravenswood Ave., Chicago 40, Ill.
Clements Mfg. Co., 6650 S. Narragansett Ave., Chicago 38, Ill.
Eureka Vacuum Cleaner Co., Bloomington, Ill.
General Electric Co., Appliance and Mdse. Dept., Bridgeport, Conn.
Health-Mor, Inc., 203 N. Wabash St., Chicago, Ill.
Hild Floor Machine Co., 740 W. Washington Blvd., Chicago 6, Ill.
Hoover Co., 8 S. Michigan Ave., Chicago 3, Ill.
Ideal Industries, Inc., Sycamore, Ill.
Kent Co., Inc., 174 Canal St., Rome, N. Y.
Pullman Vacuum Cleaner Co., 33 Allerton St., Boston, Mass.
Multi-Clean Prods., 2277 Ford Pkwy., St. Paul 1, Minn.
National Super Service Co., 1946 N. 13th St., Toledo, O.
Scott and Fetzer Co., The, 11401 Locust Ave., Cleveland 2, O.
Spencer Turbine Co., 486 Newark Ave., Hartford, Conn.
Westinghouse Electric Corp., 983 Page Blvd., E., Springfield, Mass.
Von Schrader Mfg. Co., 1600 Junction Ave., Racine, Wis.

VENTILATING SYSTEMS

(See AIR CONDITIONING)

WORK LIGHTS

Century Lighting, Inc., 521 W. 43rd St., New York, N. Y.
Kliegl Bros., Universal Electric Stage Lighting Co., 321 W. 50th St., N. Y. 19, N. Y.
Reliance Devices Co., 30 Irving Place, New York 3, N. Y.

DRIVE-IN GUIDE

ADMISSION SYSTEMS

EPRAD COMPANY, 1206 Cherry St., Toledo, O.
GENERAL REGISTER CORP., 43-01 22nd St., Long Island City, N. Y.
K-Hill Signal Co., Inc., 326 West 3rd St., Uhrichsville, O.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
Palmer Engineering and Development Co., 2459 North Chico Ave., El Monte, Calif.
Taller and Cooper, Inc., 75 Front St., Brooklyn 1, N. Y.

ATTRACTION BOARD

ADLER SILHOUETTE LETTER CO., 11843 West Olympic Blvd., Los Angeles 64, Calif.
BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
Theatre Specialist, Inc., 1615 Cordova St., Los Angeles 7, Calif.
Tiffin Art Metal Co., Tiffin, Ohio
WAGNER SIGN SERVICE, INC., 218 South Hoyne, Chicago 12, Ill.

BEACON ATTRACTION LIGHTS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
Federal Sign & Signal Co., 8764 S. State St., Chicago 9, Ill.
Tripp Mfg. Co., 133 N. Jefferson St., Chicago 6, Ill.

CABLE AND SPEAKER CORDS

BALLANTYNE CO., 1707 Davenport St., Omaha, Neb.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
Western Insulated Wire Co., 1001 E. 62nd St., Los Angeles 1, Calif.
Wheeler Ins. Wire Co., 1118 E. Aurora St., Waterbury 20, Conn.
Whitney Blake Co., 1565 Dixwell Ave., New Haven, Conn.

DRIVE-IN THEATRE SEATING

American Seating Co., 9th & Broadway, Grand Rapids 2, Mich.
Griggs Equipment Co., 209 Beale St., Box 630, Belton, Texas.
Heywood-Wakefield Co., Gardner, Mass.
Ideal Seating Co., 519 Ann St., N. W., Grand Rapids, Mich.
MASSEY SEATING CO., 160 Hermitage, Nashville, Tenn.

FENCING

American Chain and Cable Co., Inc., Page Steel and Wire div., Bridgeport, Conn.
Anchor Post Fence Co., 6695 Eastern Ave., Baltimore 24, Md.
Habitant Fence Co., Bay City 21, Michigan.

IN-CAR HEATERS

Arvin Industries, Columbus, Ind.
BTU Industries, Englewood, N. J.
ELECTROMODE, 45 Crouch St., Rochester, N. Y.
EPRAD, 1206 Cherry St., Toledo, O.
THERMOLATER CO., 1628 Victory Blvd., Glendale, Calif.

IN-CAR SPEAKERS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
CENTURY PROJECTOR CORP., 729 7th Ave., New York 19, N. Y.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
EPRAD, 1206 Cherry St., Toledo, O.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
Oxford Electric Co., 3911 S. Michigan, Chicago 5, Ill.
Permaflex Corp., 4900 W. Grand, Chicago, Ill.
Radio Corp. of America, RCA Victor Div., Theatre Equip. Sales, Camden, N. J.
United Speaker Co., 1263 3rd Ave., New Kensington, Pa.
WESTREX CORP., 111 8th Ave., New York

INSECTICIDES REPELLENTS

Pic Corp., 837 Broad St., Newark, N. J.
Swingfog, Inc., 415 Lexington Ave., New York, N. Y.
Todd Shipyards Corp., 81-16 45th Ave., Queens, N. Y.

LITTER EQUIPMENT

Litterlift, 202 N. Mahaffee, Olathe, Kan.
Mideast Sales, P. O. Box 62, Lockland, Ohio.
Tarrant Manufacturing Co., 59 Lake St., Saratoga Springs, N. Y.

PLAYGROUND EQUIPMENT, RIDES

All American Racers, Inc., Carlton House, Pittsburgh, Pa.
AMERICAN PLAYGROUND DEVICE CO., Anderson, Ind.
Burke, J. E., Co., Fond Du Lac, Wis.
Doepke Mfg. Co., Rossmoyne, O.
Herschell, Allen Co., N. Tonawanda, N. Y.
Hills Playground Equip. Co., Grand Prairie, Texas.
Game Time, Inc., Litchfield, Mich.
Jamison Mfg. Co., 8800 S. Mettler, Los Angeles, Calif.
King Amusement Co., Mt. Clemens, Mich.
Miracle Equip. Co., Grinnell, Iowa.
Murdock Mfg. Co., 4056 Del Rey Ave., Venice, Calif.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Play Sculpture, 7 University Place, New York, N. Y.
Powercar Company, Willow St., Mystic, Conn.
Robel Corp., Berwick, Pa.

POOLS AND EQUIPMENT

AMERICAN PLAYGROUND DEVICE CO., Anderson, Ind.
International Swimming Pool Corp., 290 Hall St., White Plains, N. Y.

PORTHOLE BLOWERS

DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.

RAMP AND DIRECTIONAL SIGNS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb. 6
Bevelite, Inc., 1615 Cordova St., Los Angeles, Calif.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
EPRAD, 1206 Cherry St., Toledo, O.
Federal Sign & signal Co., 8764 S. State St., Chicago, Ill.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Radio Corp. of America, RCA Victor Div., Theatre Equip. Sales, Camden, N. J.

SCREEN COATINGS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
EPRAD 1206 Cherry St., Toledo, O.
Plast X Plate, Berwyn, Pa.
Spatz Paint Industries, Inc., 5237 Manchester St., St. Louis 10, Mo.
Technikote Corp., 63 Seabring St., Brooklyn 31, N. Y.
Tropical Paint & Varnish Co., 1246 W. 70th St., Cleveland 2, O.

SCREEN TOWERS

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
Elizabeth Iron Works, Green Lane, Elizabeth, N. J.
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold St., New York 38, N. Y.
Radio Corp. of America, RCA Victor Div., Theatre Equip. Sales, Camden, N. J.
Rilco Laminated Products, Inc., 332 Minnesota St., St. Paul 1, Minn.
Selby Industries, 1350 Ghent Hills Rd., Akron 13, O.
Signs, Inc., 48 Geneva St., Boston 21, Mass.
Timber Structures, Inc., P. O. Box 3782, Portland 8, Oregon.
Tweedy Screen Corp., 5005 N.E. 6 St., Minneapolis 21, Minn.

SPEAKER POSTS (DRIVE-IN)

DRIVE-IN THEATRE MFG. CO., div. of Dit-Mco, Inc., 505 W. 9th St., Kansas City 5, Mo.
Sonken-Galamba, Inc., Riverview at Second St., Kansas City 18, Kansas.

SPEAKER REPAIR

BALLANTYNE CO., 1712 Jackson St., Omaha 2, Neb.
DRIVE-IN THEATRE MFG. CO., 505 W. 9th St., Kansas City, Mo.
Motiograph, Inc., 4431 W. Lake St., Chicago 24, Ill.
SOUND CRAFTERS, 232 Crown Ave., Scranton, Pa.
Stewart's Speaker Service, Box 249, R. D. 1, McKees Rocks, Pa.
Western Electronic Co., 3311 Houston Ave., Houston, Tex.

SWIMMING POOLS

(See POOLS AND EQUIPMENT)

Refreshment Equipment Suppliers

The Leading Companies in the Field Ever Ready to Boost Extra Profits

BAGS AND BOXES

Andre Paper Box Company, San Francisco, Cal.—Popcorn containers
Grand Bag and Paper Company, Inc., Ossining, N. Y.—Noiseless popcorn bags and others
MANLEY, INC., 1920 Wyandotte Street, Kansas City, Mo.
Prunty Seed and Grain Company, 620 West Second Street, St. Louis, Mo.—Noiseless popcorn bags
Rex Paper Products Company, 21-09 Borden Avenue, Long Island City, N. Y.—Popcorn bags, noiseless, m. g., glassine, hot dog bags, sandwich bags, French Fry bays, Pizza Pie bags, egg roll bags, pillow type bags, peanut bags, foil bags for hot buttered corn, duplex bulk bags for prepopped corn
Rockford Paper Mills, 33 South LaSalle Street, Chicago, Ill.—Popcorn boxes
Superdisplay, Inc., Specialty division, 1324 West Wisconsin Avenue, Milwaukee, Wis.—Popcorn boxes, buttercup containers

BEVERAGES

Bowman Dairy Co., 140 W. Ontario Street, Chicago, Ill.—Chocolate milk in cans
Canada Dry Ginger Ales, Inc., 100 Park Avenue, New York—Beverages
THE COCA-COLA COMPANY, 515 Madison Avenue, New York—"Coke"
Cramore Fruit Product Bases, Point Pleasant, N. J.—Fruit beverage bases
Dad's Root Beer Company, 2800 North Talman Avenue, Chicago, Ill.—Beverages
Double Cola Company, 1478 Market Street, Chattanooga, Tenn.—Beverages
Dutch House, Inc., 1411 N. Sydenham St., Philadelphia, Pa.—Chocolate drink
Grapette Company, 112 Grinsted, Camden, Ark.—"Grapette"
Charles E. Hires Company, 206 South 24th Street, Philadelphia, Pa.—Root beer
Hurty-Peck Co., 1423 Naomi Street, Indianapolis, Ind.—Beverage flavors
Julep Company, 353 West Grand Avenue, Chicago, Ill.—Root beer and fountain syrup
Mission Dry Corporation, 5001 South DeSoto Street, Los Angeles, Cal.—Mission orange
Nehi Corporation, 10th and 9th Avenue, Columbus, Ga.—"Nehi" and "Royal Crown Cola"
Orange Crush Company, 2201 Main St., Evanston, Ill.—"Orange Crush" drink, "Old Colony" beverages
Dr. Pepper Company, 428 Second Street, Dallas, Tex.—Beverages
PEPSI-COLA COMPANY, 3 West 57th Street, New York—Beverages
Richardson Corporation, 1069 Lyell Avenue, Rochester, N. Y.—Root beer

CANDY

Fred W. Amend Company, 8 South Michigan Avenue, Chicago, Ill.—"Chuckles"
Bachman Chocolate Manufacturing Company, Mount Joy, Pa.
Walter Baker and Company, Inc., Pierce Square, Dorchester, Mass
Banner Candy Manufacturing Company, 700 Liberty Avenue, Brooklyn, N. Y.—Candy, Jordan almonds, coated licorice
Paul F. Beich Company, West Front Street, Bloomington, Ill.
Blumenthal Bros., Margaret and James Streets, Philadelphia 27, Pa.
E. J. Brach and Sons, 4656 West Kinzie Street, Chicago 44, Ill.
Brock Candy Company, Chattanooga, Tenn.
Bunte Brothers-Chase Candy Company, 3301 West Franklin Street, Chicago 24, Ill.
Cadbury-Fry America, Inc., 261 Broadway, New York
Candy Crafters, Inc., Stewart and Union Avenues, Lansdowne, Pa.—Chewing gum, Licorice "Sweeties"
Candymasters, Inc.—3-5 North 15th Street, Minneapolis 3, Minn.
Cardinet Candy Company, 2172 Market Street, Oakland, Cal.
Charms, Inc., 601 Bangs Avenue, Ashbury Park, N. J.
Chunk-E-Nut Products Company, 231 North 2nd Street, Philadelphia, Pa.
Cook Chocolate Company, 4825 South Rockwell Street, Chicago 32, Ill.
Curtiss Candy Company, 1101 West Belmont Street, Chicago 13, Ill.
F and F Laboratories, 3501 West 48th Street, Chicago 32, Ill.
Ferrara Candy Co., 2200 W. Taylor Street, Chicago, Ill.
Fisher Nut and Chocolate Company, 2327 Wycliff Street, St. Paul 4, Minn.
D. Goldenberg, Inc., 161 West Wyoming Avenue, Philadelphia 40, Pa.
Adolph Goldmark & Sons, 467 Greenwich Street, New York, N. Y.—"Terry," "Assorted Pastilles"
Henry Heide, Inc., 313 Hudson Street, New York
Hershey Chocolate Corporation, Hershey, Pa.
HOLLYWOOD CANDY COMPANY, Chestnut and Calumet, Centralia, Ill.
Walter H. Johnson Candy Company, 4500 West Belmont Avenue, Chicago, Ill.
Robert A. Johnston Company, 4033 West National Avenue, Milwaukee 1, Wis.
Kelling Nut Co., 2800 Belmont, Chicago, Ill.
Kimbell Candy Company, 6546 West Belmont Avenue, Chicago, Ill.
Kraft Foods Company, 500 Peshtigo Court, Chicago 11, Ill.
Leaf Brands, Inc., 115 North Cicero, Chicago, Ill.
Life Savers Corporation, Port Chester, N. Y.—Candy, Life Savers
Lusk Candy Company, Davenport, Ia.—Lemon drops
McAfee Candy Company, Inc., Macon, Ga.
Mars, Inc., 2019 North Oak Park Avenue, Chicago 35, Ill.
Mason, Au and Magenheimer, P. O. Box 549, Mineola, L. I.
Meister Candies, Cambridge, Wis.
National Licorice Company, Bridge and John Streets, Brooklyn 1, N. Y.
Necco Sales Corporation, 245 Massachusetts Avenue, Cambridge, Mass.
Nestle's Chocolate, 2 Williams Street, White Plains, N. Y.
Peter Paul, New Haven Road, Naugatuck, Conn.
Planters Nut and Chocolate Company, 632 South Main Street, Wilkes-Barre, Pa.
Quaker City Chocolate and Confectionery Company, 2136 Germantown Avenue, Philadelphia, Pa.
Queen Anne Candy Company, 604 Hoffman Street, Hammond, Ind.
Reed Candy Company, 1245 Fletcher Street, Chicago—Butter Scotch rolls, Chocolate rolls, Orange rolls
Reese Peanut Butter Corp., Hershey, Pa.
Thomas D. Richardson Company, Atlantic and I Streets, Philadelphia, Pa.—Candy mints
Joseph A. Riggie Candy Company, 3704 West North Avenue, Chicago, Ill.—Jordan almonds
Rockwood and Company, 88 Washington Avenue, Brooklyn, N. Y.
Schuler Chocolates, Inc., 1000 West Fifth Street, Winona, Minn.
Sperry Candy Company, 133 West Pittsburgh Avenue, Milwaukee 4, Wis.—"Chicken Dinner," "Denver Sandwich"
Squirrel Brand Company, 10-12 Boardman Street, Cambridge, Mass.
Howard E. Stark, 181 North Broadway, Milwaukee 2, Wis.
Sweets Company of America, Inc., 1515 Willow Avenue, Hoboken, N. J.—Candy, Tootsie Fudge, Tootsie Rolls
Switzer's Licorice Company, 612 North First Street, St. Louis 2, Mo.
Terry Candy Company, 963 Newark Avenue, Elizabeth, N. J.
Van Houton & Zoon, 537 Greenwich St., New York, N. Y.
James O. Welch Company, 810 Main Street, Cambridge, Mass.
Wilbur-Suchard Chocolate Company, 48 North Broad Street, Lititz, Pa.
Williamson Candy Company, 4701 Armitage Avenue, Chicago 39, Ill.
York Caramel, Box 1147, York, Pa.
George Zeigler Company, 408 West Florida Street, Milwaukee 4, Wis.

COFFEE MAKER, VENDER

Coan Manufacturing Co., 2070 Helena St., Madison 4, Wis.
Cole Products Corp., 39 S. LaSalle St., Chicago 3, Ill.
Continental Vending Machine Corp., 956 Brush Hollow Rd., Westbury, N. Y.
MANLEY, INC., 1920 Wyandotte, Kansas City, Mo.
Steel Products Co., 40 Eighth St., S.W., Cedar Rapids, Iowa.
Superior Refrigerator Manufacturing Co., Inc., 822-824 Hodiamont Ave., St. Louis 2, Mo.

CONCESSION SERVICE COMPANIES

ABC Vending Corporation, 209 West 14th St., New York, N. Y.
BERLO VENDING COMPANY, 333 South Broad St., Philadelphia, Pa.
Confection Cabinet Corp., East Orange, N. J.
Sportservice, Inc., Sportservice Building, Buffalo, N. Y.
Theatre Confections Inc., 795 Monroe Ave., Rochester 7, N. Y.

CONCESSION STANDS

Columbus Showcase Co., 850 West Fifth Ave., Columbus, O.—Showcases, candy stands
Dill, Philip A., Inc., 1209 Castle, Dallas, Tex.
MANLEY, INC., 1920 Wyandotte, Kansas City, Mo.
NATIONAL THEATRE SUPPLY CO., 92 Gold St., New York 38, N. Y.
Savon Co., The, 286 Pennsylvania Ave., Paterson 3, N. J.
Supurdisplay, Inc., 2100 Wisconsin Tower Bldg., Milwaukee, Wis.
Samson Berman Associates, 144-03 78th Ave., Flushing 67, Long Island, N. Y.

CUPS, PAPER

Continental Can Co., 349 Oraton Street, Newark, N. J.
Dixie Cup Company, 24th and Dixie Avenue, Easton, Pa.
Hi-Land Paper Company, 274 Madison Avenue, New York
LILY-TULIP CUP CORPORATION, Chanin Building, 122 East 42nd Street, New York
Maryland Cup Co., 1100 S. Eutaw Street, Baltimore 30, Md.
U. S. Envelope Company, 68 Prescott, Worcester 5, Mass.

DRINK DISPENSER, FOUNTAIN, BOTTLE, CUP

Automatic Products Company (APCO), 1740 Broadway, New York—Beverage dispenser
Automatic Syrup Company, 46-07 Vernon Boulevard, Long Island City, N. Y.—Vending machines
Bastian-Blessing, 4201 West Peterson Avenue, Chicago 30, Ill.—Soda fountain, carbonators, luncheonette units
H. A. Bruntjen Co., 1645 Hennepin, Minneapolis, Minn.—"Mist Master" drink dispenser
C. G. Bradley and Son, 431 North Franklin Street, Syracuse, N. Y.—Cup beverage vending machines
C. T. C. Mfg. Co., 11936 Valerio Street, N. Hollywood, Cal.—"Whirlpool Jr." beverage dispenser
Carbonaire, Inc, 114 Fern Avenue, San Francisco, Cal.—Drink dispensing equipment
Carbonic Dispenser Company, Canfield, O.—"Sodamaster" dispenser
Club Bar, 141 E. 44th St., New York, N. Y.
Coan Manufacturing Company, 2070 Helena, Madison, Wis.—Super vend dispenser
Cole Products Company, 39 South LaSalle Street, Chicago, Ill.—Beverage vendors

Drinkolator Corporation, 3700 Oakwood Avenue, Youngstown, O.—Beverage dispenser
Everfrost Sales, Inc., 14815 South Broadway, Gardena, Cal.—"Everfrost" soda bar
Frigidrink Corporation, 235 East 42nd Street, New York—Drink dispenser agent
Helmco, Inc., 1215 West Fullerton Avenue, Chicago, Ill.—Soda fountain and refrigeration equipment
Hudson Soda Fountain and Refrigeration Company, Arlington, N. J.—Soda fountains
Hydro-Silica Corporation, Flora Dale, Pa.—Cold vendors, bottle
W. Kestenbaum, Inc., 1790 First Avenue, New York—Dispenser
Knickerbocker Beverage Dispensers, Inc., 453 Sixth Avenue, New York—Drink dispensers
The Liquid Carbonic Corporation, 3110 South Kedzie Avenue, Chicago, Ill.—Soda fountains
Lyon Industries, 373 4th Avenue, New York 16, N. Y.—Coin operated beverage dispenser
Majestic Enterprises Inc., 959 Crenshaw Boulevard, Los Angeles, Cal.—Dispenser
MANLEY, INC., 1920 Wyandotte Street, Kansas City, Mo.—"Ice-O-Bar" drink dispenser
Mighty Midget Manufacturing Corporation, 4215 North Seventh Street, Phoenix, Ariz.—Drink dispenser
Milk-O-Mat Corporation, 500 Fifth Avenue, New York—Cup dairy drink
Miller & Carrell Mfg. Co., 1215 12th Street, Denver, Colo.—"Speedster" hot choc. dispenser
Mills Industries, 4100 Fullerton Avenue, Chicago, Ill.—Beverage vendor
Modern Refreshers, Inc., 55 East Washington Street, Chicago, Ill.—Dispenser
Multiplex Faucet Company, 4319-25 Duncan Avenue, St. Louis, Mo.—Beverage dispenser
NATIONAL THEATRE SUPPLY COMPANY, 92 Gold Street, New York 7, N. Y.—Beverage dispensers
Rowe Mfg. Co., Inc., 31 E. 17th St., N. Y., N.Y.—Beverage dispenser
S and S Products Company, P O Box 1047, Lima, O.—Cold vendor, bottle
Selmix Dispensers, Inc., 28-25 Borden Avenue, Long Island City 1, N. Y.—Beverage dispenser
Smith-Werner Company, 610 Santa Fe Drive, Denver, Colo.—Portable soda fountain
Spacarb, Inc., Stamford, Conn.—Cold vendors, cup (automatic)
Superior Refrigerator Company, 1606 Pine Street, St. Louis 3, Mo.—Beverage dispenser
Telecoin Corporation, 12 East 44th Street, New York—Drink dispensers
Vendolator Manufacturing Company, P. O. Box 1586, Fresno, Cal.—Cold vendors, bottle milk
John W. Young Foundation, 29 Fairway Drive, Barrington, R. I.—Hydro-jet cup vending machine.

FOOD PREPARATION EQUIPMENT

Bakers Pride Oven Co., 1641 E. 233 Street, New York 66, N. Y.—Pizza ovens
Bell Engineering Co., 55 Munroe Street, Lynn, Mass.—Bar-B-Cutie barbeque
G. S. Blodgett Co., Inc., 50 Lakeside Ave., Burlington, Vt.—Pizza ovens
Broil-Quick Appliance Corp., 615 W. 131st St., N. Y. 27, N. Y.—Infra-red frankfurter grill
Burger-Mat Corp. 341 39th Street, Brooklyn, N. Y.—Hamburger equipment
J. J. Connolly, Inc., 457 West 40th Street, New York 18, N. Y.—Automatic frankfurter—Roll-A-Grill
Dalason Prods. Co., 835 W. Madison, Chicago, Ill.—Bar-B-Frank hot dog machine
Garvis Manufacturing Company, 210 Court Street, Des Moines, Ia.—Hot dog bun warmer
General Mfg. Co., 1209 Castle St., Dallas, Texas
Greer Enterprises, Inc., 281 N. Grant Avenue, Columbus, O.—"Glenray" hot dog machine
Haruk Mfg. Co., 154 Nassau Street, New York 38, N.Y. Pizza ovens
Helmco, Inc., 1215 W. Fullerton, Chicago, Ill.
Charles E. Hires Co., 206 S. 24th Street, Philadelphia, Pa.—"Snak-Bar" hot dog grill and beverage server
Hollywood Servemaster, 114 W. 18th Street, Kansas City 8, Mo.—"Roto-Grill" hot dog machine
Hot Point (Div. of General Electric), 227 South Sealey, Chicago, Ill.—Food preparation equipment
MANLEY, INC., 1920 Wyandotte Street, Kansas City, Mo.—"Frank-Bank" hot dog cooker and server
Nu-matic Machines Co., 250 W. 57th Street, New York, N. Y.—Automatic hot dog dispenser
ORIGINAL CRISPY PIZZA CRUST CO., 1393 Blondell Ave., New York 61, N. Y.—Pizza ovens
Prince Castle Sales Co., 121 W. Wacker Drive, Chicago, Ill.—Bar-B-Que preparation equipment
Savon Co., 286 Pennsylvania Avenue, Paterson, N. J.—Pizza pie ovens
Star Manufacturing Company, 6300 St. Louis Avenue, St. Louis, Mo.—Food equipment
Toastmaster Prods. div., McGraw Electric Co., Elgin, Ill. Hot food servers, toasters, food preparation equipment
U. S. Vending Machine Corp., 4300 N. Carlyle St., Philadelphia, Pa.—Hot dog vender

FOODS, PREPARED

Arena Real Pizza Crust Co., 1913 White Plains Rd., Bronx 61, N. Y.—Pizza pie
Armour and Company, Union Stockyards, Chicago, Ill.—Frankfurters
Campbell Soup Co., Camden, N. J.—Canned Soups
Castleberry's Food Company, P. O. Box 1010, Augusta, Ga.—Bar-B-Que, chili, canned, prepared
Flavo-Rite Food, Inc., 516 Westchester Avenue, Bronx, N. Y.—Egg, turkey and shrimp rolls
Frozen Food Prods., 1735 Margaret Avenue, Altoona, Pa.—Frozen foods
C. E. Grant, 616 East Washington, Indianapolis, Ind.—Frozen chicken
Hygrade Food Prods., 2811 Michigan Avenue, Detroit 16, Mich.—Frankfurters
Oscar Mayer Co., 910 Mayer Avenue, Madison, Wis.—Frankfurters, cold meats
Original Crispy Pizza Crust Co., 1852 Bronxdale Avenue, New York 62, N. Y.—Pizza pie
Pizza Enterprises, Inc., 420 75th Street, North Bergen, N. J.—Pizza pie
Smithfield Ham Prods. Co., Smithfield 8, Va.—"James River Brand" meat barbecues and sauces
Swift and Company, Union Stockyards, Chicago, Ill.—Frankfurters
Tolona Pizza Pie Prods., Inc., 401 S. Cicero Avenue, Chicago 44, Ill.—Pizza products

FRUIT JUICE DRINKS

American Citrus Corporation, 333 North Michigan Avenue, Chicago, Ill—Del juice vendor
California Fruit Chimes Company, 325 South Mission Drive, San Gabriel, Cal
Green Spot, Inc., 1501 Beverly Boulevard, Los Angeles, Cal.—Orange juice concentrate and automatic dispensers
Hamilton Beach Company, Division of Scovill Manufacturing Company, Racine, Wis.—Fresh fruit juice drinks
Juice Bar Sales Corporation, 12 East 44th Street, New York—Juice dispenser
Metal Products Company, 1135 Third Street, Oakland, Cal.—Can juice vendor
Snivel Vending and Sales Company, Winter Haven, Fla.—Cup juice vendor
Sunkist Growers, Inc., 707 West Fifth Street, Los Angeles 13, Cal.

GUM

American Chicle Company, Thompson Avenue, Long Island City, N. Y.
Beech-Nut Packing, 10 East 40th Street, New York, N. Y.
Bowman Gum, Inc., 4865 Stenton Avenue, Philadelphia, Pa.
Frank H. Fleer Corporation, 10th and Somerville, Philadelphia, Pa.
Leaf Brands, Inc., 115 North Cicero, Chicago, Ill.
William Wrigley, Jr. Company, 410 North Michigan Avenue, Chicago, Ill.—Package gum

ICE CREAM, MANUFACTURERS, EQUIPMENT, VENDORS

Afco, Inc., 432 Alandale Avenue, Los Angeles, Cal.—Ice cream vendor
Artic Vendor Sales Corporation, Appleton, Wis.—Ice cream vendor
Atlas Tool and Manufacturing Company, 5147 Natural Bridge Avenue, St. Louis, Mo.—Ice cream vendors
Badger Vending Machine Company, 710 North Plankington, Milwaukee, Wis.—Cup ice cream vendor
Beatrice Foods, 120 South LaSalle Street, Chicago, Ill.—Ice cream, milk, butter
The Borden Company, 350 Madison Avenue, New York—Ice cream
Craig Machine Company, Danvers, Mass.—ice cream vendor
Dari-Delite Corporation, 1624 4th Avenue, Rock Island, Ill.—Soft ice cream
De Cicco's Bon Bon Corporation, 451 North Rodeo Drive, Beverly Hills, Cal.—Chocolate covered ice cream bon bons
Dresko Machine Corporation, 5629 North Central Avenue, Chicago, Ill.—Ice cream vendors
Eastern Engineering and Sales, Inc., Commercial Trust Building, Philadelphia, Pa.—Kenco ice cream vendor
Emery Thompson Machine and Supply Company, 1349 Inwood Avenue, New York 52, N. Y.—ice cream and custard machine
Freeze King Corporation, 2518 West Montrose Avenue, Chicago, Ill.—Ice cream custard machine
Frosti-Server, 1833 Pacific Highway, San Diego, Cal.—Ice cream vendor
General Equipment Sales Company, 814 South West Street, Indianapolis, Ind.—Ice cream and custard machine, Sani-Serv self ice cream freezer
Fred Hebel Corp., Addison, Ill.—Automatic coin ice cream vendor
Ice Creamolator Corporation, 3700 Oakwood Avenue, Youngstown, O.—Ice cream dispenser
Jordan Refrigerator Company, 58th and Grays Avenue, Philadelphia, Pa.—Cabinets and storage dispensers
Joe Lowe, Inc., 621 West 26th Street, New York—"Frozen On-a-Stick Confection"
Mills Industries, Inc., 4100 Fullerton Avenue, Chicago 39, Ill.—Freezers
Multiple Products Company, 5210 Bonita, Dallas 6, Tex.—Snow Cone machine
National Market Equip. Co., 25531 De Quindre, Royal Oak, Mich.—Ice cream freezers and novelty cases
Philadelphia Dairy Products Company, Inc., Fourth and Poplar Streets, Philadelphia, Pa.—Aristocrat ice cream
Port Morris Machine and Tool Company, 208 East 135th Street, New York—Soft ice cream and custard machine
Supurdisplay, Inc., 1324 West Wisconsin Avenue, Milwaukee, Wis.—"Coldisplay" ice cream merchandiser
Sweden Freezer Manufacturing Company, Department F-13-PR, Seattle, Wash.—Ice cream and frozen custard fountain freezer
Swift and Company, Union Stockyards, Chicago, Ill.—Ice cream
Tekni-Craft, Rockton, Ill.—Ice Cream and custard machine
West Coast Sheet Metal Works, 935 Venice Boulevard, Los Angeles, Cal.—Self-Service ice cream merchandiser

POPCORN

American Popcorn Company, Sioux City, Iowa—Raw popcorn
Blevins Popcorn Company, P. O. Box 278, Nashville 2, Tenn.
Central Popcorn Company, Schaller, Iowa—Popcorn
Albert Dickenson Co., 2750 West 35th St., Chicago, Ill.
J. A. McCarty Seed Company, 526 Northwest 4th St., Evansville, Ind.
MANLEY, INC., 1920 Wyandotte, Kansas City, Mo.
'Pop' Corn Sez Company, 429-35 South 61st St., Philadelphia 43, Pa.
Poppers Supply Co., 1211 North Second St., Philadelphia, Pa.
Wyandotte Popcorn Co., Marion, Ohio
Y and Y Popcorn Supply Co., 256 North 13th St., Philadelphia, Pa.

POPCORN EQUIPMENT

Automatic Products Company, 250 W. 57th St., New York, N. Y.—Butter dispenser
Bonanza, Inc., 2980 West Pico Blvd., Los Angeles, Cal.—Popcorn vending machines
C. Cretors and Company, 630 West Cermak Rd., Chicago, Ill.—Popcorn equipment, butter dispenser.
Dairy Service Company, 100 East Main St., Menomonee, Wis.—Butter dispenser
DMC Corporation, States Distributors, 1624 Harmon Place, Minneapolis, Minn.—Popcorn machines, automatic
G. H. R. Enterprises, Inc., 12017½ Vose St., North, Hollywood, Cal.—Viscount, Viking popcorn machines
Hollywood Servemaster Co., 114 West 184 St., Kansas City 8, Mo.
MANLEY, INC., 1920 Wyandotte St., Kansas City, Mo.—Vending equipment and popcorn machines and supplies
NATIONAL THEATRE SUPPLY COMPANY 92 Gold St., New York 38, N. Y.—Popcorn equipment and supplies
Phenix Food Company, 460 East Illinois Ave., Chicago, Ill.
Savoral Co., Popcorn Bldg., Nashville, Tenn.—Seasoning
Star Manufacturing Co., 6300 St. Louis Ave., St. Louis, Mo.—Popcorn machines, food equipment.
Supurdisplay, Inc., Wisconsin Tower Bldg., Milwaukee, Wis.—Butter dispenser.
West Coast Sheet Metal Works, 935 Venice Blvd., Los Angeles, Cal.—Butter dispenser.

POPCORN SEASONING

Arlington Edible Oil Products, 38 Yetten Terrace, Boston, Mass.
Best Foods, Inc., 1 East 42nd Street, New York
Capital City Products, West First and Perry, Columbus, O.
Cargill, Inc., 200 Grain Exchange, Minneapolis, Minn.
E. F. Drew and Company, Inc., New York 10, N. Y.—Tastee-Pop coconut oil bar seasoning.
C. F. SIMONIN AND SONS, Belgrade and Tioga Streets, Philadelphia, Pa.—Popsit Plus, Seazo oils.

PORTABLE VENDING EQUIPMENT

Acton Manufacturing Company, 605 South Summit Street, Arkansas City, Kans.—Refreshment vending cart, portable coolers
Atlas Body Corporation, 4150 East Thompson Street, Philadelphia, Pa.—ABC Vendomobile, steamer grill for hot dogs, heat popcorn, insulated section for ice cream
Coan Manufacturing Company, 2070-2084 Helena Street, Madison 4, Wis.—U-Select-It vendors, candy, food and cigarettes; Super-Vend cold cup drink dispenser
DMC Corporation, distributed by All States Distributors, Inc., 1624 Harmon Place, Minneapolis, Minn.—"Pop Corn Shop" automatic popcorn machine
Food-Mobile, 240 S. Harison St., East Orange, N. J.—Portable vending cart
DRIVE-IN THEATRE MANUFACTURING COMPANY, 729 Baltimore Avenue, Kansas City 6, Mo.—Portable vending carts
Tol-Pak Company, 416 South Sixth Street, St. Louis, Mo.—Beverage dispenser
Walky Service Company, Schweiter building, Wichita, Kans.

CONCESSION TRAILERS

Armour and Company, Fresh and Smoked Sausage Dept., Chicago, Ill.
THE COCA-COLA COMPANY, trailers available from local distributors
Canada Dry Ginger Ale, Inc., 100 Park Ave., N. Y.
Dr. Pepper Fountain Division, P. O. Box 5086, Dallas, Tex.
Dad's Root Beer Company, 2800-3400 N. Talman Ave., Chicago, Ill.
Flavo-Rite Foods Company, 643 Brook Ave., Bronx 55, N. Y.
Frozen Farm Products Co., 1735 Margaret Ave., Altoona, Pa.
Charles E. Hires Co., 206 S. 24th St., Philadelphia, Pa.
Mickelberry Food Products, 43rd and State Line, Kansas City, Kans.
Nehi Corporation, 10th & 9th Ave., Columbus, Ga.
PEPSI-COLA COMPANY, available from local distributors
Silver Skillet Brands, P. O. Box 216, Skokie, Ill.
Smithfield Ham and Products Co., Smithfield, Va.
Superdisplay, Inc., 2100 Wisconsin Tower Bldg., Milwaukee 3, Wis.

VENDING MACHINES (CANDY)

Belvend Company, 122 South Michigan Avenue, Chicago, Ill.
DuGrenier, Arthur H., Inc., 15 Hale Street, Haverhill, Mass.
Mills Automatic Merchandising Company, 21-30 44th Road, Long Island City, N. Y.—Vending machine manufacturing
Mills Industries, 4100 Fullerton Avenue, Chicago, Ill.
National Vendors, Inc., 5055 Natural Bridge Road, St. Louis, Mo.
Rowe Manufacturing Co., Inc., 31 E. 17th St., New York, N. Y.
Stoner Manufacturing Company, 328 Gale Street, Aurora, Ill.

MISCELLANEOUS

American Gas Machine Co., 505 Front Street, Albert lea, Minn.—Scotsman ice machine
DCA Industries, 45 W. 36 St., NYC, N. Y.—Doughnut machines
Speed Scoop, 109 Thornton Avenue, San Francisco 24, Cal.—Popcorn scoop
Tyson-Caffey, 8 Briar Road, Wayne, Pa.—Carry-out beverage tray

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